TECHNOLOGY DEPARTMENT

Member Associated Business Papers, Inc.

The Newspaper of the Industry

Member Audit Bureau of Circulations.

AIR CONDITIONING AND REFRIGERATION News

Issued Every Monday at 450 W. Fort St., Detroit 26, Mich.

December 29, 1947

Vol. 52, No. 18, Serial No. 980

Established 1926.

PUBLIC LIBRARY DEC 29 1947 DETROIT

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright, 1947, by Business News Publishing Co.

INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Write Your Congressman Today!
How to Write to Your Congressman
Efficiency Can Be Inefficient
The Mail-Bag
Take Another Look
Back To Fundamentals
Putrid Handicap

Story of the Week

"Where did I come from, mama?" asked the little boy upon returning from play with a gang of neighbor lads.

"Oh-oh," thought his mother, "this is the moment I've been dreading, but I might as well face it." So she told him about the birds and the bees, etc.

In fact, she went into considerable detail.

But before she had finished, her offspring lost all interest, and started to leave the room.

"But Johnny," remonstrated his mother. "Don't you care? Why did you ask the question?"

"Oh, I just wondered. Chuckie Baggs comes from Brooklyn."

Write Your Congressman Today!

Major Howard E. Blood, president of Norge, told us at lunch the other day that the next few weeks may determine whether or not America returns to controls, rationing, planned scarcity, and black markets.

The result, he believes, would be *wild* inflation.

"High prices seem to be foremost in the minds of the public," he said, and everyone is concerned about this problem. But confusion exists in the minds of the people and of Congress as to what is the right thing to do about prices.

The administration asks for more power to regulate things, for example. Truman begs: "Give us the power to allocate grain, steel and any material found to be in short supply and basically affecting industry or the cost of living. Give us the power to regulate prices and wages. We will not use these powers very much—the mere threat of $1000.00 fine and six months in jail will make people do what we think best."

Major Blood is terribly concerned lest we may choose that course. How wrong it would be! More government control is not a remedy for high prices at all. That would reduce our production, cause black markets worse than during the war, and would throw our economy into confusion. We do not need more government controls, but should avoid them like poison.

Instead of controls, Major Blood suggests this five-point program:

1. We will be willing, all of us, to work harder and longer so as to produce more goods.

2. We will restrain our use of scarce foods which we have to share with other countries.

3. High taxes are a big factor in high prices. They also result in lack of capital for new enterprises and for the production of more goods. We will insist on lower taxes and reduced government spending.

4. We will understand that wage increases which increase costs will result in still higher prices, and we will therefore not press for such increases. On the contrary, management and labor will cooperate to produce more goods at costs reduced by better equipment, better effort and efficiency, and by longer hours with less overtime premiums.

5. We will understand that price increases which are not needed in

(Concluded on Page 8, Column 1)

Winter Marts Will Open 2-Week Run In Chicago Jan. 5

CHICAGO—The annual winter marts featuring appliances and home furnishings will open here Jan. 5 for a two-week run at the American Furniture Mart and the Merchandise Mart.

Record crowds of buyers from all over the nation are expected to flock to Chicago for this important mid-winter event, and hotels will probably reach the over-flow point.

Detailed lists of appliance exhibitors who will be exhibiting their latest wares have not yet been made available, but all top manufacturers of refrigerators, home freezers, ranges, washers, ironers, and other appliances will undoubtedly be showing their new products.

Big Boom In Vending Machines Predicted

CHICAGO—A prediction that 750,000 carbonated beverage vending machines will be in use within five years and a description of three newly-introduced fruit-juice vendors were heard during the recent convention of the National Automatic Merchandising Association at the Palmer House here.

The outlook for the vending machine business was presented by Robert Z. Greene, president of the association. He said he foresees an annual volume of $2,000,000,000 for the industry within the next five years.

Jack M. Cross, of Telecoin Corp., described the new fruit-juice vendors: the Snively "Dispen-so-lator," United States Vending Corp.'s "Automatic Store" or "Pik-Ups," and the "Tele-Juice" unit. All these machines will be in full production early in 1948, according to Cross.

Greene told the operators there are now in use 200,000 carbonated bottle and cup beverage machines and 200,000 five-cent candy machines, among others. Within five years, he prophesied, the former will increase in number to 750,000 and the latter to 400,000.

(Concluded on Page 17, Column 2)

Allocation of Steel Sought From Industry

WASHINGTON, D. C.—Voluntary agreements with industry on allocating such scarce commodities as steel will be attempted beginning Jan. 8, officials of the U. S. Dept. of Commerce have announced.

This move follows the recent passage by the House and Senate of the Taft anti-inflation bill, which President Truman is expected to sign.

Starting Jan. 8, Commerce Department officials will meet with top executives of the iron and steel industry to work over proposed plans to keep steel from going into such non-essential uses as license plates and some amusement construction, it was revealed.

Much of the framework of the old War Production Board and the Civilian Production Administration will be revived, if the Commerce Department plans are followed.

Steel has the No. 1 priority for these voluntary industry agreements, after which the government hopes for agreements on such things as lumber and other building materials, farm machinery, electrical machinery, aluminum, and other items.

Tinplate may soon be subjected to a compulsory conservation order since the government still has its powers over tin.

Walter S. Tower, president of the American Iron & Steel Institute, says representatives of steel companies are willing to discuss voluntary allocations with the government agency whenever it wishes.

Sherer Names Rogers Western Sales Head

MARSHALL, Mich. — Charles R. Rogers, well-known in Pacific Coast and Rocky Mountain area refrigeration circles, has been appointed western sales manager for Sherer-Gillett Co. here, the firm announced.

Rogers, who has been active in all phases of the distribution of refrigeration equipment, will cover eight states. Offices are in the Western Merchandise Mart, San Francisco.

Hotpoint Ships New 10-cu. ft. Standard, 2-Temp Models

CHICAGO—Two new refrigerators —a combination two-temperature box and a standard 10-cu. ft. model —are being shipped to distributors and dealers by Hotpoint, Inc., announces L. C. Truesdell, vice president of marketing.

The two-temperature refrigerator is designated as Model EG-8, the 10-ft. as EA-10. Model EG-8 will retail for $399.75.

This model is divided into two compartments: the upper for freezing and storage of frozen foods, and the lower for normal refrigeration storage. The over-all storage capacity of 8.2 cu. ft. (6.7 for the refrigerator, and 1.5 for the freezer) is contained in a unit occupying no more kitchen space than the pre-war 6-cu. ft. box.

Since the average homemaker opens her refrigerator approximately 50 times a day, and the home freezer only two or three times, Hotpoint engineers believe that the two-door design is essential for maintaining correct refrigeration and freezing temperatures. Both compartments are equipped with automatic lights.

The freezer compartment, in effect, is a miniature home freezer with all the features necessary for freezing and preserving 52 pounds of food, Hotpoint says. The temperature is maintained at 0° F. or lower, and defrosting for this compartment is necessary about twice a year.

Space in the refrigerator storage compartment has been greatly increased in the EG-8 through the elimination of the conventional evaporator unit. The conventional unit has been replaced by a flat plate type located in the refrigerator walls, maintaining a humidity of 80%.

Because of its high humidity feature, the EG-8 will conserve food freshness for longer periods than the conventional refrigerator, Hotpoint engineers claim, adding that drying out of uncovered foods is minimized. Defrosting of this compartment is automatic and needs no attention.

Among the deluxe features of the EG-8 are the two fruit and vegetable sliding drawers in the bottom of the refrigeration compartment. Humidity in these drawers is said to

(Concluded on Page 4, Column 3)

Nema October Sales Hit High Of 314,078

7-cu. ft. Refrigerators Lead In Popularity Among 2,572,952 Sold In 10 Mos.

NEW YORK CITY—World sales of household electric refrigerators during October by the 11 manufacturers who report their sales to Nema totaled 314,078.

This is a new postwar high, and represents a gain of some 24,000 units over the previous month of September. The October figure, however, falls short of prewar highs recorded by the household refrigerator industry.

Total sales by the Nema group during the first 10 months of 1947 now amount to 2,572,952. This includes 2,406,279 domestic sales, 15,316 to Canada, and 151,357 to other foreign countries.

Most popular size refrigerator in both October and the 10-month sales was the 7-cu. ft. model, running far ahead of the second choice, the 9 and 10-cu. ft. category. In October 160,549 7-ft. models were shipped, compared with 60,159 in the 9 and 10 ft. class.

Detroit Co-op Eyes Appliance Lines

DETROIT — Merchandising appliances through a city-wide cooperative here may become a reality next summer if plans of Motor City Consumers Cooperative organizers work.

Though officials of the movement are still hesitant to make any statements on their plans at this early date, it was learned that they intend to merchandise, if they can, anything that will reduce the consumer's cost of living.

And appliances are definitely in that plan. One official suggested that appliances might be merchandised through departments attached to cooperative food markets.

At the present time, however, the organization is still in its early stages. Motor City Consumers Co-op., Inc. has been authorized by the city council to sell shares in its enterprise.

Quoted price on the cooperative's stock is $20 per share with an entrance fee of $3.

Its announced aims are to "concentrate first on large supermarkets which sell meat, groceries, and produce. Later it will move gradually into the distribution of other goods and services where exorbitant profits promise consumers substantial savings."

As to the prices it will charge for its merchandise, the cooperative has stated in a brochure that "it will sell at prices that will be competitive or lower than the prices that now prevail in Detroit. In addition, at the end of each year the people who buy the goods from themselves in the Co-ops, will receive a cash dividend based on their purchases."

The organization claims to be independent of any political, religious, or other organization. Its list of directors includes George Edwards, president of the city council; George F. Addes, former secretary-treasurer of the UAW-CIO; Victor G. Reuther, educational director of the UAW-CIO; Archie Virtue of the American Federation of Labor; Rev. Charles A. Hill, Negro pastor; and Judge George Murphy of Recorders Court.

One of the cooperative's organizers anticipated that small, independent cooperative stores currently operating in the Detroit area will come into the city-wide organization and act as retail outlets for it.

'Hog-Pound' Prices Help Farmers Make Both Ends 'Meat'

FOREST CITY, Ia.—John Hanson, owner of an appliance store in this farming community, has gone "hog wild" in his merchandising program.

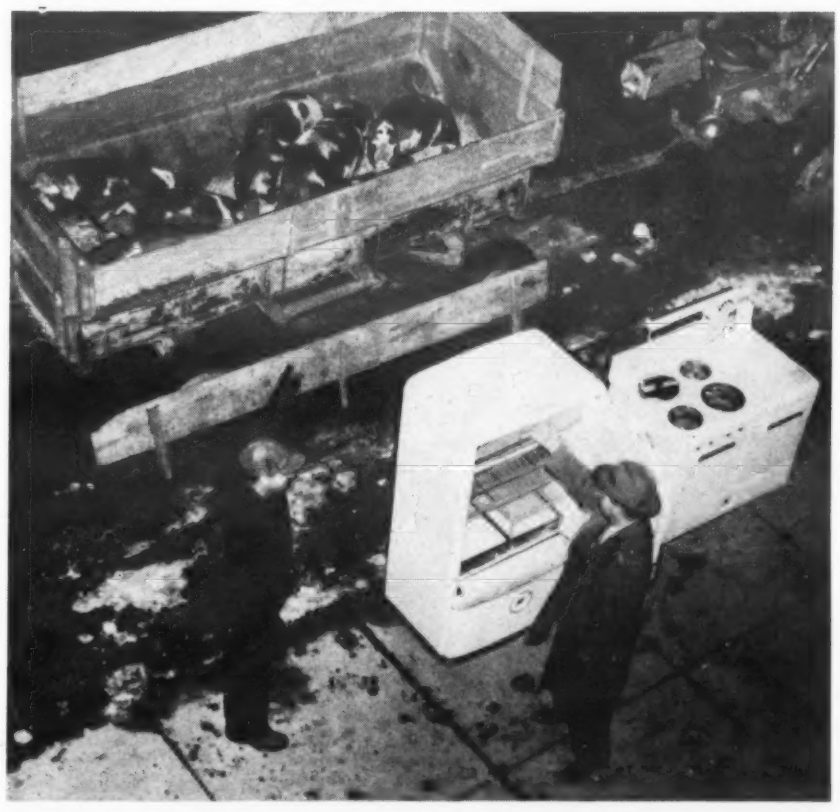
Price tags on the appliances displayed by Hanson are marked so many "hog pounds" instead of so many dollars.

The idea? Hanson is trying to being home to prospects the price relationship between appliances and farm produce.

For example, farmers are informed that 14 hogs averaging 220 pounds apiece would have been worth one 9-cu. ft. refrigerator in 1941. Today, they are told, the same hogs could be traded for the same refrigerator plus a deluxe electric range, an automatic toaster, and $20 in change.

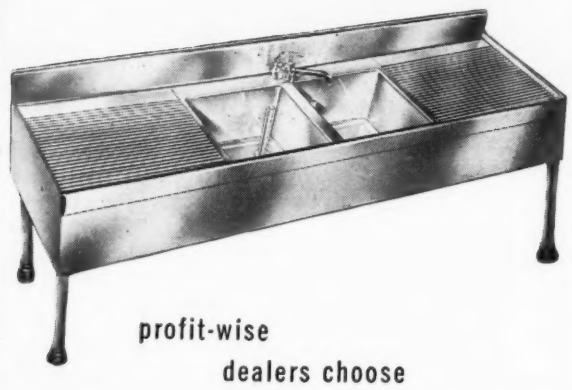
Hanson's first customer, Merle Otis, a farmer west of Forest City, hooked up his farm tractor to two trailers and towed 14 hogs to Hanson's store. After a little old-fashion home-spun bargaining and "hand-waving," a satisfied Farmer Otis departed with a new Frigidaire Cold-Wall refrigerator, an electric range of the same brand, an automatic toaster, and $20 change in his pocket.

Needless to say Hanson's business is flourishing in this farm community. Hanson eyes today's 25-cent-per-pound market price for hogs with flavor. "It's all a matter of price relationship," he says.



John Hanson, dealer in Forest City, Iowa, heart of the corn and hog belt, is shown with Farmer Merle Otis, trading appliances for hogs. Fourteen hogs, averaging 220 pounds per head, brought Farmer Otis a refrigerator, electric range, automatic toaster, and $20 change.

for eye-appeal economy performance ..... specify Supremetaline .....

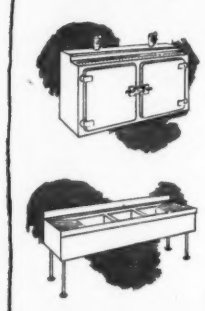


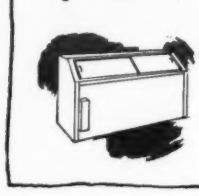
profit-wise dealers choose

SUPREMETAL under-bar workboards

An arrangement to fit every bar! The right size for every need! And priced just right, too! Check these better-than-ever features: ROUNDED-CORNER SINKS! Horizontal and vertical corners and intersecting coves are fully rounded for top-notch sanitation, appearance, drainage. SUPERIDGID DRAINBOARDS! Unusual die-stamped corrugation provides wide drainage channels, greater rigidity and strength! ALL-STEEL HEAVY-DUTY CONSTRUCTION! Not a stick of wood in it! ROUNDED SPLASH AND NOSING! Each die-stamped out of one piece of sturdy, stainless steel.

Write TODAY for catalog showing the complete profit-making SUPREMETALINE!





Supremetaline

ALL-STEEL BAR AND BEVERAGE SERVICE EQUIPMENT

SUPREME METAL FABRICATORS, Inc. • BROOKLYN 11, N. Y.

Chattanooga Sales Up In Domestic, Commercial

CHATTANOOGA, Tenn. — Refrigerator sales by local dealers continued on the upswing during November as the dealers posted an 18% increase over their October volume, a report issued by the Electric Power Board of Chattanooga revealed.

Electric ranges and home freezers, which showed sharp drops during October, recovered lost ground in November by piling up large gains. Vacuum cleaner sales were up about 48% in November while clothes washer sales moved up slightly.

Water heater sales, on the other hand, continued to slide downward, with 22% less units sold during November than in October. Ironers, clothes dryers, and dishwashers also chalked up lower sales figures.

Among commercial equipment, refrigerators made substantial gains, and air conditioners pushed ahead slightly. Beverage coolers and ice makers and water coolers dropped off, while freezing cabinet sales almost came to a standstill.

Product	No. of Units	Average Unit Price	Total Sales Value
Refrigerators	353	$ 267.14	$ 94,298.69
Home Freezers	29	362.28	10,505.99
Ranges	413	251.37	103,814.37
Water Heaters	192	122.21	23,464.34
Ironers	35	158.33	5,541.45
Vacuum Cleaners	254	85.75	21,780.35
Clothes Washers	386	175.71	67,825.28
Clothes Dryers	13	226.48	2,944.20
Dish Washers	8	342.59	2,740.75
Air Conditioning Units	8	2,118.88	16,951.00
Commercial Refrigerators	18	982.76	17,689.71
Freezing Cabinets	3	621.66	1,925.00
Beverage Coolers	54	309.18	16,695.71
Ice Makers, Water Coolers	4	198.69	794.75

Cites Factors Likely To Help '48 Sales Of Home Freezers

SMYRNA, Del. — Many economic and social factors are combining to make 1948 a year of healthy possibilities for the home freezer industry, John E. Wilson, Jr., president of Wilson Refrigeration, Inc., said here last week in a year-end statement.

"While I am making no prophecies or attempting any audits of future trends there seems abundant evidence at hand that the home freezer will play an even more important role in 1948 than it did in 1947 in helping American families combat the problem of increasing food scarcities and spiralling prices," Wilson declared.

"The home freezer had its first real important emergence this year," according to Wilson. "While there are many millions yet who do not know what the home freezer can and cannot do, their education as to its functions certainly was hastened in 1947. It was stepped up by the necessity for family heads to find a way to meet the food crisis.

"They found the home freezer was an effective practical step in that direction. They discovered the home freezer saved time, money, and food for them, that they could store food bought at lower prices in season for future use when prices would be higher.

"This word-of-mouth story in behalf of the home freezer gained real momentum this year. It will speed up next year with the outlook not too good as to food supplies and prices."

10,000 Refrigerated Vending Machines for Candy Bars Ordered

MASON CITY, Iowa—Receipt of an order from United States Vending Corp., Chicago, for the manufacture of 10,000 automatic, electrically-refrigerated candy bar vendors during the first six months of 1948 was announced by Stoddard Mfg. Co. here.

The vendor, which will hold 420 candy bars of seven brands, consists of a standard domestic-type cabinet, with selector mechanism and candy chute mounted on the door. Stoddard will produce the complete 8.8-cu. ft. cabinet, ready for installation of the vending equipment. The cabinet will be bonderized, with high-baked green DuPont enamel.

Refrigeration will be provided by a plate-type evaporator, maintaining a temperature of 55 to 60°, and a Kelvinator hermetically-sealed unit. According to Stoddard, the complete refrigeration system will be removable from the front of the cabinet as a unit to simplify field replacement.

Kelvinator Discloses Breakdown of Sales

DETROIT—Of the 667,000 commercial and household products produced by Kelvinator Division of Nash-Kelvinator Corp. during the 1947 fiscal year closed Sept. 30, 480,000 were household appliances, including refrigerators, home freezers, and electric ranges, it was revealed by Charles T. Lawson, vice president in charge of sales.

The remainder, Lawson reported, was of commercial products such as ice cream cabinets, condensing units, and beverage coolers.

"The 1947 total compares with the prewar peak of 523,000 units in 1941," a company announcement said. "Biggest increase—about 170% —was in commercial condensing units because of their low enameling steel requirements."

Kelvinator production facilities permit an output of more than 1,000,000 units of all kinds during the current year, it was noted.

Carrier '47 Volume Over Wartime Peak

SYRACUSE, N. Y.—The air conditioning and refrigeration industry looks forward to 1948 with a considerable degree of optimism, declares Cloud Wampler, president of Carrier Corp.

"Demand continues at a high level," he declared. "This condition exists with respect to the field of human health and comfort—but even more particularly in industry, where the control of temperature and humidity is so often necessary for efficient production.

"Carrier Corp. itself had a good 1947 fiscal year. Completed sales totaled more than $51,000,000—some $13,000,000 above the wartime peak.

"Plans for the year ahead call for some increase in volume, and new business is now being booked at a satisfactory rate. However, the principal objective for fiscal 1948 will be consolidation of position, rather than expansion.

"The major problem confronting Carrier Corp. has to do with the continuing shortage of certain materials, especially sheet steel. Then, there is the over-all price situation and the necessity of holding prices at the lowest possible level despite increasing costs. Nevertheless, unless business in general suffers some major upset Carrier Corp. should produce satisfactory operating results in fiscal 1948."

Morgan Air Conditioning Opens In Marshall, Texas

MARSHALL, Tex.—Announcement was made this month of the opening of the Morgan Air Conditioning & Heating Co., 205 West Austin St.

IT'S QUIET!

HERE'S WHY

1 Special consideration placed on obtaining minimum noise level during design of unit.

2 Microscopic and optical control of all limits and tolerances of unit parts during machining and assembly.

3 Moving parts accurately balanced statically and dynamically.

4 All bronze bearings and highly finished case hardened crankshaft for years of operation.

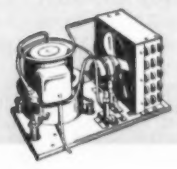
5 Stator press-fit into body; rotor press-fit on crankshaft to assure permanent, accurate positioning.

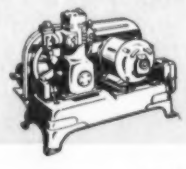
6 Motor air gap and alignment accurately controlled.

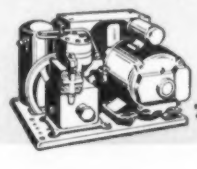
7 Forced lubrication to all bearings—Longer, quieter operation.

HERMETIC "CASE-WELDED" REFRIGERATING UNITS FOR DOMESTIC AND COMMERCIAL APPLICATIONS

Available in over 16 models ranging from 1/8 H. P. to 1/2 H. P. Our engineers will be glad to recommend the correct model for your application based on a thorough study of your fixtures and requirements.

HERMETICS 1/8 H. P.  TO 1/2 H. P.

REMOTES 1/4 H. P.  TO 15 H. P.

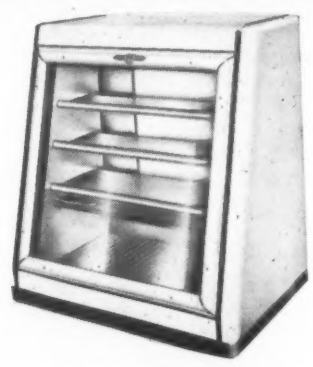
SELF-CONTAINED 1/5 H. P.  TO 3/4 H. P.

UNIVERSAL COOLER

DIVISION INTERNATIONAL DETROLA CORPORATION

MARION, OHIO • BRANTFORD, ONTARIO

THE PICTURE OF QUALITY



DISPLAY CASE NEW — IMPROVED

This PERFECTED DISPLAY CASE has expansion valve installed, coils hooked up, with drain included.

We Also Manufacture a Complete Line of Commercial Refrigeration Equipment

IMMEDIATE DELIVERY

GENERAL REFRIGERATORS CORP.

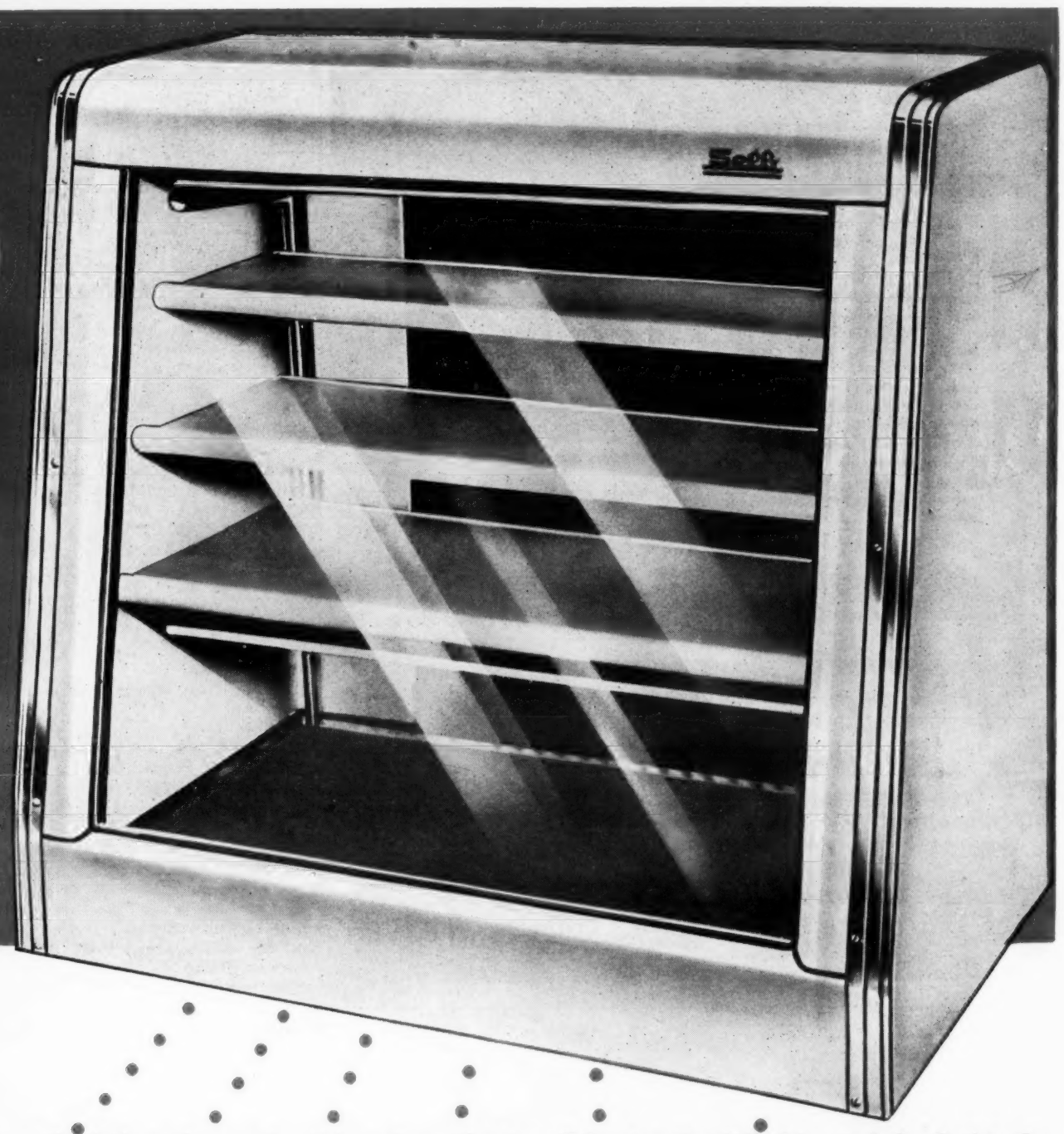
MANUFACTURERS SINCE 1928

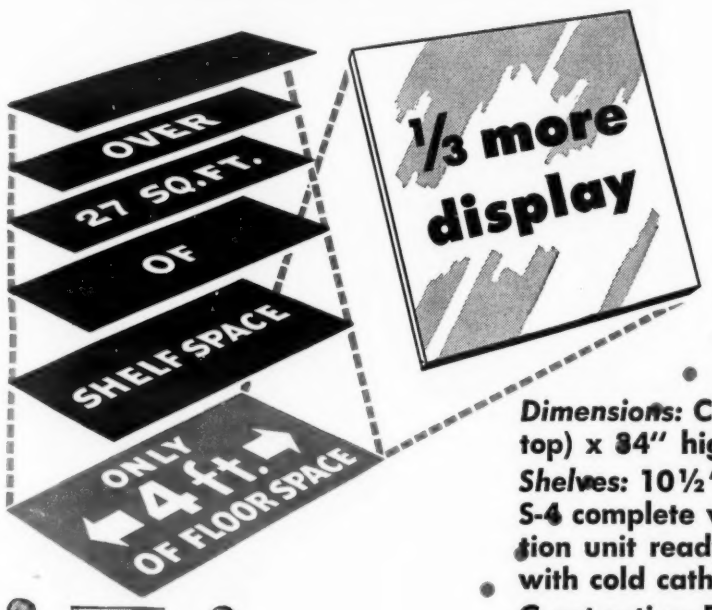
678 BROADWAY NEW YORK 12, N. Y.

GRC

THE CASE THAT SELLS TO MORE OUTLETS than all others put together!

Selb S-4 refrigerated DISPLAY CASE





The butcher, the baker, the candy stick maker—they're all buying the Selb S4—and the florist, the dairy store, the delicatessen, and the druggist too—they all need this popular refrigerated display case. It's important equipment for every size of business, from the confectioner to the largest supermarket. *The Selb S-4 sells more—and it fits any store.*

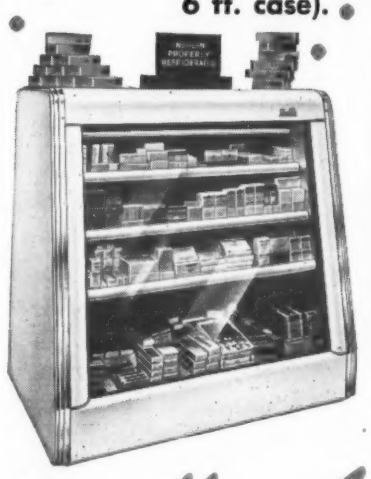
The Selb S-4 brings added display and expansion facilities to retail outlets. Besides compactness and high utility, it provides the flexibility of all-purpose adaptability—as well as portability—in the Selb XS-4 self-contained unit. Gleaming white enamel with glistening chromium trim . . . fluorescent illuminated . . . non-fogging, crystal clear, glass front. The finest equipment . . . worthy of the Selb quality name . . . engineered and manufactured in one of the largest most modern specialized plants in the country.

Dimensions: **Case 48" long x 30" wide (23" at top) 50" high side unit 24" x 28" (24" at top) x 34" high. Over 22 cubic feet capacity.**

Shelves: **10½" x 42½", 13½" x 42", 17" x 42". Bottom area 24" x 42"**

S-4 complete with cooling coils and expansion valve. XS-4 complete with ¼ h. p. refrigeration unit ready to plug in—no special wiring or tubing installation necessary. Illuminated with cold cathode fluorescent lighting.

Construction: **Rustproofed, heavy gauge, sheet steel inside and outside, gleaming white baked enamel finish trimmed with glistening chrome. Alumilite finish shelves. Display front is crystal clear, triple-paned, non-fogging, high strength glass 38½" x 38½" (equivalent to average 6 ft. case).**



Nationally Advertised and dealer merchandised

SELB LEADS THE WAY SEE IT TODAY

THE SELB SELLS FOR YOU BECAUSE IT SELLS FOR RETAILERS—SEND FOR DEALERS' DETAILS

Selb MANUFACTURING CO.

812 OLIVE ST. ST. LOUIS 1, MO.

SCHNACKE
Complete
CONDENSING UNITS

SCHNACKE units have replaceable refrigerant-cooled steel cylinder sleeves, complete pressure lubrication, balanced forged crankshafts, individual cylinder liquid relief, individual cylinder valve cage assemblies, built-in suction strainers, sealed crankcase, balanced pressure shaft seal, insert type bearings, water or air cooled heads, and many other advanced features.

Condenser is ASME approved, fin tube, cleanable type mounted in sturdy base. Water control valve and pressure controls installed.

Illustrated above is the "T-C" Model, with capacity from 5 H.P. low temperature to 15 H.P. Air Conditioning. F-C Models to 25 H.P. available; less condenser, from 5 to 50 H.P.

Our new foundry now makes deliveries on most models possible in one to two weeks.

Complete engineering data sent promptly upon request.

SCHNACKE, INC.

1016 E. Columbia St., Evansville, Ind.

Hotpoint Ships Standard, 2-Temp Models--

(Concluded from Page 1, Column 4)

approach 90 to 95%. A butter conditioning compartment with a temperature control keeps butter at spreading consistency. A stainless steel rack on hinges contains three jars for leftovers. All shelves in the refrigerator section are of stainless steel, and interior walls are lined with acid resisting porcelain to facilitate cleaning.

The external appearance of the refrigerator-freezer is enhanced by its large vertical moulding of bright metal trim, extending between the handles of each door. Both doors are provided with automatic door latches which pull the doors tightly closed. This feature eliminates the necessity of slamming doors.

1948 two-temperature Model EG-8

The EG-8, like other Hotpoint refrigerators, is powered by a Thriftmaster unit which is vacuum-sealed against air, moisture, and dirt. It is permanently lubricated at the factory and is fan-cooled and equipped with an overload control. These features, engineers pointed out, increase the life of the power unit and reduce maintenance costs. The seven sides of the EG-8 are insulated with an average thickness of 3 in. of Fiberglas or Thermocraft, while the freezer compartment has 4 in. insulation.

Another addition to the line, the EA-10, has the same external appearance as its deluxe prototype, the EC-10. The new 10-cu. ft. refrigerator was designed to provide large refrigeration space for families with limited budgets. Its price, $299.75, compares with $349.75 for the EC-10.

Except for a slight increase in the price of the 6-cu. ft. refrigerator, the rest of the Hotpoint line includes added features with prices remaining unchanged. In effect, company officials said, this amounts to a price reduction.

The 6-cu. ft. model, raised in price from $189.75 to $191.75, has a number of improvements. These include a vegetable drawer, a glass meat compartment, deluxe ice cube trays, and a newly designed nameplate. Engineers point out that in this model, as in the others, careful designing of interior arrangements has brought about an increase of approximately 33% in the food storage space.

In general Hotpoint's 1948 line has been standardized as much as possible in the exterior appearance of refrigerators.

SPECIFY...

DRYERS THAT BEAR THIS LABEL — CHARGED IN DAVISON'S SILICA GEL OUT WITH

—the label that is your guarantee of maximum performance and satisfaction. Your jobber stocks it—for refilling and in factory charged dryers.

MARSH

Pressure Gauges
Dial Thermometers
★*The gauge with the Recalibrator*

Ask for this New Refrigeration Booklet

JAS. P. MARSH CORP.
DEPT. O. SKOKIE, ILLINOIS

Diffusion Type
UNIT HEATERS
For low-pressure steam and hot water

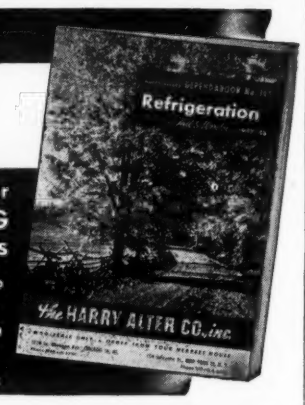
Wall and Ceiling
DIFFUSERS
For all above-freezing applications

M&E EST. 1866

CATALOG ON REQUEST
MERCHANT & EVANS CO.
PHILA. 46, PA.

Insist on genuine Marlo Products
MARLO = HEAT TRANSFER Since 1925

GET THIS NEW
FALL AND WINTER
DEPENDABOOK NO. 145



It's brand new, it's America's finest source for REFRIGERATION, AIR CONDITIONING and ELECTRIC MOTOR Parts and Supplies

Your copy is waiting for you. Write on YOUR letterhead, today to

THE HARRY ALTER CO., INC.
1728 S. Michigan Ave., Chicago 16, Illinois
134 Lafayette Street, New York 13, New York

More for your money with
STANDARD
fractional-horsepower
MOTORS

GENERAL ELECTRIC offers you three advantages as a source of fractional-hp motors. First, we give you the widest variety of standard general-purpose and definite-purpose motors to choose from—some 1600 in all. Second, General Electric motor-exchange and repair-service plans have been developed on a country-wide scale to give prompt, low cost motor repair or replacement service to your customers. Finally, in all G-E motors you get the quality extras which standards can't cover. You get the benefit of the newest developments in bearing design, insulation, and winding techniques. You get the best possible protection against electrical breakdown and mechanical wear and tear.

THE NEW MOTOR AND INDUSTRY STANDARDS for defining motor rating and performance and the new dimension standards for small-power general-purpose and definite-purpose* motors were arrived at after study of thousands of motor orders and months of co-operative work by industry associations and the National Electrical Manufacturers' Association. And—these standards will be modified as design trends change, to keep in step with user needs. Standardization is not static!

FOR EXAMPLE, the General Electric machine tool motor is engineered specifically for rough industrial service. Totally enclosed, these motors have a rigid base and ball bearings which fit them for jobs where thrust is encountered. Firmly anchored windings stand up under frequent start-stop service, plugging, and momentary overloads. Descriptive bulletins on this and other standard G-E motors listed below are available on request. *Apparatus Department, General Electric Co., Schenectady 5, N. Y.*

Unit-bearing Fan
Washing Machine
Oil Burner
Machine Tool
Gas Pump
Hermetic Refrigeration
Belted Fan
Coal Stoker
Jet Pump
Shaft-mounted Fan
Sump Pump
General Purpose

* *Definite-purpose motors are standard motors specifically designed for jobs where general-purpose motors (built for broad application) are not ideally suited.*

He saves *engineering time*—

D. R. PERCIVAL, *Electrical Engineer, Machine Division, Norton Company*

"I think many designers will save time in the long run if they will decide, at the start of a job, to use standard motors." Thus speaks D. R. Percival, Electrical Engineer, Machine Division, Norton Company. "We'll eliminate the exhaustive engineering tests we used to make on fractionals. With horsepower, service factor, breakdown torque, and starting current all rated on a clear-cut, uniform basis we'll know *in advance* whether the motor will handle the job."

He cuts *production corners*—

BEN B. BRESLOW, *President, Utility Appliance Corp.*

"The big thing about the new small-power motor standardization plan, to me, is the promise it holds of increasing the *availability* of all makes of motors," says Ben B. Breslow, President, Utility Appliance Corp. "We'll stand a better chance of getting 'off-the-shelf' delivery of motors if they are a big production item, instead of a special. We cut a few production corners, too, by using standards. We eliminate special jigs and fixtures, and the need for making universal mounting bases and adapter plates. We can 'standardize' more of our own assembly methods."

GENERAL ELECTRIC

700-820

A New Better Different

SEE US AT CLEVELAND BOOTH 125

COOLER CARBONATOR
SELF-CONTAINED FOR A VARIETY OF APPLICATIONS

● The famous Heat-X-Cast Aluminum Cooler now incorporates a carbonator . . . and like all other Heat-X equipment . . . is compact, simple, efficient and rugged. Result: a unit with many advantages for soda fountains, counter dispensers, vending machines and other applications.

HOW IT WORKS: Water entering the casting is cooled and then alternately with CO_2 gas enters the mixing chamber in the lucite carbonator head. Water and gas pass through atomizing orifice holes, and stainless steel wool permitting absorption of the gas. The carbonated water level in the bottom of the shell controls the water pump through a floatless relay.

Compact pump, motor and relay in one small unit.

THE HEAT-X-CHANGER CO., INC.
415 Lexington Avenue, New York 17, N.Y. Brewster, N.Y.

Frozen Food Packer's Survey Finds:

Most Retail Cabinets Checked Operating Above 0°; Stores Advised To Ask for Temperature Guarantee

STATE COLLEGE, Pa.—A "representative" sampling of retail frozen food cabinets in five principal metropolitan areas in one section of the country and spot checks in other areas and sections revealed that only 7% were at 0° F. or below in the warmest spot.

So J. E. Hall, of Pictsweet Foods, Inc., Mt. Vernon, Wash., reported to the Third Annual Frozen Food Conference at Pennsylvania State College here this fall.

Hall said 14.5% of the boxes checked were being operated at maximum temperatures of 25° F. or over in the warmest portion where foods were stored and 75% were at 20° F. or over at this point.

He had described satisfactory retail cabinets as "those that maintain a temperature not to exceed 0° F. in both the coldest and the warmest part of the cabinet where foods are stored, with a fluctuation of not to exceed -3° F. and yet permit attractive sales displays."

EVIDENCE OF DEHYDRATION

Continuing with his report on results of the survey, which was "not limited to one brand or one group of retail outlets," Hall said well over 75% of the products examined showed evidence of dehydration and that they had been partially or completely defrosted sometime.

"True," he commented, "some of this damage was visible only to an experienced person but a lot of it would be apparent to the consumers. The large majority of these products would probably be considered acceptable by consumers because they were of better quality and more economical than could be obtained in the fresh market but they were not as good as if they had been handled under closely controlled conditions."

Asserting that retailers have a "considerable" investment in unsatisfactory equipment, Hall suggested that until the boxes can be replaced they be equipped with thermometers and maintained at the lowest possible temperatures. Also, he noted, care should be taken not to stack the food above the frost line and to keep the stock turned over so that the oldest food is always on top.

"Perhaps the best control for the future is for retailers to insist that the new cabinets they buy be equipped with direct reading thermometers and guaranteed to maintain adequate even temperatures of 0° F. or less," he advised. "The cabinet salesman who says his box will maintain a temperature of 10° or above and that is good enough should be gently escorted to the door.

"Consumers can exercise a degree of control here by calling to the store manager's attention any adverse conditions they notice in the cabinet, such as thawed or leaking packages or dirty cabinets."

STEP-BY-STEP DESCRIPTION

Hall's remarks on retail cabinets were made during a talk on the quality control of frozen foods from field to housewife. In a step-by-step description of the controls set up at each stage of production, he pointed out in part what is being done and what has to be done to insure frozen foods reaching the consumers with all their natural goodness.

Descriptions and discussions of raw product control, line control, and finished product examination brought listeners up to the point where the product is in the package, frozen, and ready to go into the warehouse.

"From this point," Hall declared, "nothing that happens to the product is good for it."

The preservation of foods by freezing are based on these principles, he went on:

1. The prevention of enzymatic spoilage by the adequate inactivation of the vegetable enzyme systems through the application of heat before freezing.

2. The prevention of bacterial spoilage by storing the foods at 0° F. or less.

3. The prevention of product dehydration by (a) storing at even temperatures, (b) maintaining the proper humidity, and (c) protective materials.

"Controls therefore set up for the handling of frozen foods from the time they are first frozen should be based on maintaining the product at low, not higher than 0° F., even temperatures," he said. "Damage to frozen food products is accumulative. Each time the product is held at a temperature above 0° F. and each time the temperature fluctuates, quality deterioration occurs even though it might not be discernible."

Moving on to cold storage warehouses, Hall explained that those storing frozen foods should be maintained at an even temperature not higher than 0° F., preferably -5 or -10° F.—"as a matter of fact, the colder the better as long as the temperature does not fluctuate."

Transportation, the next step, was pictured as "one of the weakest links in the distribution system principally because of inadequate equipment to do the job."

"For the protection of both," he suggested, "whenever a product is shipped there should be joint determination by both the shipper and a representative of the carrier of the product temperatures and the vehicle temperature. Frozen foods should not be shipped unless they are shipped under adequate refrigeration.

"On arrival at destination both the consignee and the carrier should determine product temperature. It would seem well for carriers to use recording thermometers in shipments so that they might place the responsibility for inadequate icing or refrigeration on the proper people in their organization.

LOW TEMPERATURE VITAL

"It is not enough that the product arrives in 'only' a slightly soft condition. Frozen foods to be good, particularly in flavor, must be kept at the lowest possible temperature obtainable with present equipment, not just any temperature below 32° F. Frozen foods above 32° F. are just as perishable as the same food would be in a home refrigerator."

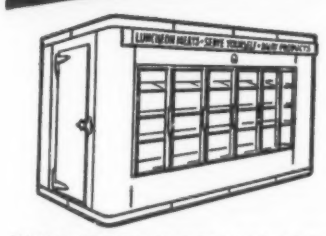
Turning to distributors, Hall said that by practicing the same good rules of transportation and storage, they can prevent damage from occurring to frozen foods while they are in their possession.

"By insisting that the public warehouses they do business with store and handle their products correctly, they can prevent that damage from occurring," he pointed out. "By giving their salesmen and drivers accurate information on how frozen foods should be handled by the retailers, and why, they can help the retailers minimize that serious damage which is occurring in the great majority of the retail cabinets."

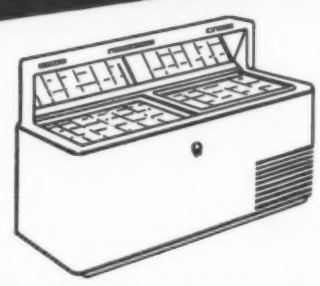
If a good product has been packed and if it has been reasonably handled from the time it was packed until it reaches the consumer, Hall concluded, it will arrive with natural flavor and succulence equal to that which can be obtained fresh from the garden and more economical.

Servicing IS A CINCH...
WITH WEBER EQUIPMENT!

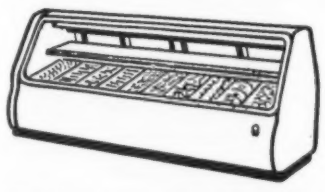
FROZEL
LOW TEMPERATURE
SELF-SERVICE CASES



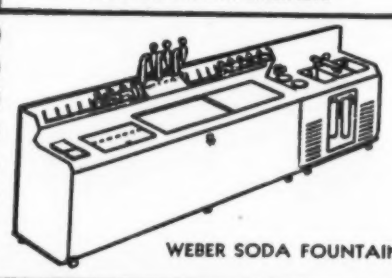
WEBER REACH-IN, WALK-IN BOXES



WEBER ROLL-A-DOOR FROZEN FOOD AND ICE CREAM CABINETS



WEBER DISPLAY MASTER MEAT CASES



WEBER SODA FOUNTAINS

. . . that's why Refrigeration Service Organizations everywhere find Weber Servicing Contracts are a money-making proposition, for service is made easy and customers are kept happy by Weber developments in design and refrigeration engineering, by the high quality of Weber materials and workmanship . . . and there's Weber equipment in every retail field, fine, modern equipment that requires but simple servicing to keep it in perfect running order. You, too, will find that service is a cinch, and profitable, with Weber Equipment . . . the most complete line of refrigerated display equipment in the world!

INVESTIGATE . . . AND YOU'LL INVEST IN WEBER

WEBER

WEBER SHOWCASE & FIXTURE CO., INC.
5700 AVALON BOULEVARD, LOS ANGELES 54, CALIFORNIA
Los Angeles • El Paso • Sales Offices In All Principal Cities
Warehouse Stocks In Key Metropolitan Areas

Our 50th Anniversary in 1948

ALL WEBER SELF-SERVICE CASES ARE PROTECTED BY U. S. PATENT NO. 2,083,442. EVERY ROLL-A-DOOR IS FULLY PROTECTED BY U. S. PATENT NOS. 2,318,311 AND 2,376,435.

AIRO has the LEADERS

We carry the preferred types of

EXPANSION VALVES

ALCO
AUTOMATIC PRODUCTS (A-P)
DETROIT
MAYSON

AIR CONDITIONING & REFRIGERATION
UNITS—PARTS—TOOLS—SUPPLIES

Wholesale only • Domestic and Export

Send for Catalog 47-A

For wholesale trade only
Please write on your letterhead
or include proper identification.

AIRO SUPPLY CO. INC.
SERVICE COVERS THE NATION
2732 N. ASHLAND CHICAGO 14, ILL.
Dept. B

STYLED FOR PERFORMANCE

Larkin refrigeration products, made by the originators of Cross Fin Coils, combine industrial beauty with flawless performance. Humi-Temp Forced Convection Units—Bare Tube and Zinc Fused Steel Plate Coils—Evaporative Condensers—Air Conditioning Units—Instantaneous Water Coolers—and other top-ranking factors in industrial and commercial refrigeration.

LARKIN COILS
519 MEMORIAL DRIVE • S•E •
ATLANTA • GEORGIA

'Fortune' on Appliance Selling

Article on Bendix Tells How Sales Organization Is Put Together, Directed, and 'Paid Off'

The November issue of *Fortune* magazine was designated as "An Issue Dedicated To American Selling." The article covering present-day sales methods and tactics on hard goods was titled "Best Selling Bendix," and related the history and distribution setup of Bendix Home Appliances, Inc.

The NEWS received permission from *Fortune* to excerpt a limited wordage to reprint from this article, and selected the following material, covering the distribution plan under which Bendix automatic washers are sold, as being the most interesting and informative for NEWS readers. We regret we cannot publish other parts of the article, covering the career of Bendix President Jud Sayre and the over-all growth of the company.

Maybe the automatic washer was a postwar natural, but Bendix Home Appliances, Inc., sold theirs the hard way. Now Bendix gets 30 cents of each U. S. washing-machine dollar. At this moment approximately half a million U. S. householders are going about their business in sublime ignorance of the certainty that on one day in 1948 they will be separated from $259.50, which, by no coincidence, happens to be the price of a Bendix Deluxe washing machine. As he writes out his check, each of these individuals will be confident that he is acting of his own free will to satisfy a desire born unabetted within his own breast.

Actually, he will be meeting a fate arranged for him a year previously by a bunch of boys in South Bend, Indiana, who had set in motion a series of cumulative pressures and stratagems that could culminate only his becoming a Bendix buyer. To be sure, the boys in South Bend had not ticketed him by name, any more than the insurance actuaries specify the individuals in a group who will die in a given year although they are almost infallible on the number.

In South Bend, indeed, he was not even dignified by the impersonal term "customer." They called him merely "the sale" there or, more likely, "the close." He is the final, inevitable explosion in a series of chain reactions known respectively as Advertise, Display, Demonstrate, and Close!

That is how washing machines, not excepting the very best washing machines, are sold. In the case of the Bendix, the primary spark to this lighting is supplied by Judson Sayre, a stocky, strong-voiced man of forty-eight whose coal-black hair is parted, arrow straight, in the middle. He is one of that breed of superior mousetrap makers who, reversing Emerson, insist on beating a path to the doorways of the world.

Jud's Juggernaut

The best way to get the drift of this sales or distribution juggernaut of Jud Sayre's is to walk into the modest South Bend office of one Winfield Linville, general sales manager, and ask him a question—any question—about the Bendix situation anywhere in the U. S. Pausing only for the lightning manipulation of one or more of the three ring-bound notebooks that repose on his desk, Linville, who may never have seen the city or hamlet in question, can tell you exactly where the store of the Bendix dealer is located, whether it is neat and attractive or otherwise, where the Bendix display stands (front, middle, or rear of the store), whether the neon Bendix sign is displayed, and where, whether the dealer is single or married, and in either event how many children he has, what principal appliance products he carries other than Bendix, whether he is an efficient salesman of Bendix products, or middling fair, or poor (measured in percentages), how many Bendixes he sold last year, last month, or last week, and how he may be expected to do next month or next year.

And Linville is not a nosy person or a collector of useless statistics. He's got to move Bendix washers or know the reason why, and this data may be part of the reason why.

The distributors, the independent entrepreneurs who hold Bendix franchises, are the key agents in the Bendix system, but between them and the Bendix home office Linville has a small army of important Bendix personnel. Its function is to assist and ride herd on the distributors. This command consists of four regional sales managers—East, Middle West, South, and West Coast—under whom there are thirteen divisional sales managers.

These divisional managers, in turn, have a total of 190 fieldmen working under them. All of these men work directly under general sales manager Linville and report to him at least once a month. Linville, fortunately, enjoys reading reports and has an ingenious system of digesting and coding their contents for his three little ring-bound notebooks.

Meantime the distributors, those bold, independent entrepreneurs, are by no means absolved from the preparation of reports even though so many people in the organization are engaged in reporting on them. It is from the distributor's "Saturday Night Report," mailed every Thursday without fail, that Linville gets all that information he can so readily quote about the remotest Bendix dealer.

The point of all this paper work and surveillance is that Bendix is determined to build a sales-and-distribution organization that will be geared to sell successfully in the most difficult times and against the stiffest competition that may arise. Bendix knows that a schoolboy could sell its washers in the present kind of market and consequently is demanding of its distributors not merely that they sell, but that they sell in a certain way and become inured to habits which will sustain their sales in any type of market.

A Bendix distributor's franchise, indeed, is conditional on the fulfillment of a number of regulations and requirements in addition to meeting sales quotas.

Distributor Requirements

There are 79 Bendix distributors in the U. S. and their quotas, of course, are based on the national potential of their respective territories (Bendix uses one of the standard market guides for this calculation). If a distributor's territory represents 1% of the national market, he is shipped, as a minimum, 1% of the month's production, etc.

The distributor then allocates the shipment to his dealers according to request, or actual orders, or the previous month's business. If the distributor's complete quota is sold, he gets a rating of 100% from Bendix. If his sales lag, he gets a "poor performance" letter. If he doesn't improve within four weeks he gets a "probation" letter, after which, even were he the President's brother-in-law, he has from 60 to 90 days to come up to scratch or he loses his franchise.

But even if he sells his quota, the distributor may get a "poor performance" letter for failing to exceed his quota if he did so the previous month, or for failing to observe any of the following principal provisions of the franchise:

(1) Distributor has to have one exclusive Bendix sales manager regardless of the size of his territory or percentage of the national market;

(2) if he supplies one-half of 1% of the national market he must have one exclusive Bendix salesman, and for each additional ½%, one additional exclusive salesman;

(Concluded on Page 7, Column 1)

Ernest Maschino ★ John Dunbar ★ Harold Pfeiler ★ Fred M. Bryan ★ Earl Cordray
Raynor Sweet ★ Lyle Hunt ★ Ervie Raymond ★ Frederick Mattis ★ Cecil Anderson
Fred Feller ★ Carl Thompson ★ Glenn VanVleet ★ John L. Brooks ★ Wilbur Mann
Ten-year Men

A Brief for FREE COMPETITIVE BUSINESS

INDIVIDUAL freedom of choice is a basic part of America's brand of democracy. Where to live, what to do, what to buy, where to work . . . free men make their own decisions under a free economy.

Tecumseh Products Company takes pride in the fact that so many of the free men who join its organization decide to stay for keeps. Today, over 200 . . . or 10% . . . of its employees have been with the Company for 10 years or longer. In making their individual contributions to the Company's progress, they have found independence, security and the strength of mutual loyalties.

Chieftain

TECUMSEH PRODUCTS COMPANY
Tecumseh, Michigan

Wall WIRE PRODUCTS COMPANY
PLYMOUTH • MICHIGAN
Makers of
REFRIGERATOR SHELVES • STAMPINGS
FORMED AND WELDED PRODUCTS

We extend to you our best wishes for a new year that will offer you all you desire.

'Fortune' on Appliance Selling

(Concluded from Page 6, Column 5)

(3) he has to have one Home Service director;

(4) he is required to have at least one Bendix serviceman who has been trained for a week in South Bend;

(5) he is required to set up his shop in good fashion with the Bendix units in a "jewel display," prominently located, and hooked up to hot and cold water;

(6) he is required to have an auditorium, or comparable facility, with a stage and props, where he can demonstrate the Bendix, train the dealers and their salesmen and Home Service women, and where he can hold his own sales-staff meetings.

'The Whipping Boy'

The Bendix company puts this kind of heat on its distributors, of course, in order to bull through inspiration, instruction, and sales discipline to the 9,211 Bendix dealers throughout the country with whom the company has no direct, personal, or contractual relations although it knows more about them than the dealers do themselves.

Bendix makes the distributor the whipping boy in the full knowledge that the sting will be passed on to the dealer, and perhaps in double dose. So the distributor, in order to avoid penalties and demerits on his own score sheets, in turn holds the dealer, either formally or informally, to a series of requirements upon which the continuation of his Bendix representation depends.

In the complete franchise, the dealer has to maintain a fully trained serviceman and also a staff of part-time "post-sale demonstrators." The latter is one of the canniest arrangements in the entire Bendix book. The Bendix is a relatively complicated machine to handle, requiring as it does an exact use of soap, frequent applications of water softener, different timings for different kinds of fabrics, etc.

The Demonstrator's Job

Bendix found long ago that in most cases of dissatisfaction with the machine, the trouble lay not with the mechanism but with the customer's inability to use it properly. Therefore, no Bendix is sold today without the customer's receiving a visit from a demonstrator or instructor shortly after the installation has been made.

For this purpose it is the practice to hire housewives who already own Bendixes. They are especially trained and are paid $2.50 a demonstration plus carfare. They are encouraged to make quite a ceremony out of the occasion and, if possible, induce the lady of the house to call in a few neighbors to witness the marvels. It is a form of sales insurance, and it produces new sales, too.

There is, indeed, no end to the literature and lore and all the dodges known to the science of selling that the South Bend boys press upon the distributors, who press them upon the dealers, who finally, it is hoped, sink the cutting edge into the customer for a close. And all this, of course, is in addition to the tidal sweep of all sorts of advertising that increasingly flows over the public consciousness. South Bend spends more than $1 million a year in national advertising, and spends as much again in local cooperative advertising with distributors and dealers.

'Why Do Distributors - - - -'

Since the management at South Bend has been known to slap a demerit on a distributor for serving sandwiches and beer at a sales meeting when everybody is aware that a chicken dinner, preceded by a cocktail, will whip up more enthusiasm among the boys, the question naturally arises, why do distributors stand for that gaff?

After all, a distributor has to be a citizen of some standing to be granted a Bendix franchise in the first place. He must be able to carry, at all times, at least five weeks' inventory, which is shipped to him sight draft on the bill of lading. He invariably has the exclusive representation of other first-class appliances, such as Philco radios and G-E refrigerators, and doesn't necessarily have to do or die with Bendix.

The answer is that a Bendix franchise pays off the distributors very handsomely indeed, and he has been in the appliance business long enough to know that constant pressure is the only thing that moves the goods. Instead of resenting Jud Sayre's toughness, he loves him for it. And if the dealer, the most important and the weakest link in the chain, knows what's good for him, he'll welcome the pressure, too, for his is the kindest cut of all.

Who Gets What

As is customary in the home-appliance business, there is a mighty satisfactory split along the line as the Bendix, which costs an average of $100 to build, goes through this Tinker-to-Evers-to-Chance routine that finally lands it in the householder's laundry room at an average price of $240. In the case of the Bendix, a relatively high-priced appliance, it is the profit in dollars that is important to the distributor and dealer, rather than the percentage that is netted on each sale, and realizing this, the company makes a strong psychological point in talking in terms of dollars instead of percentages.

Thus Bendix tells its distributors, and with rough truth,

"You make precisely a ten-dollar bill, all to yourself, on every Bendix you sell."

This is precisely the profit, incidentally, that the Bendix company makes for itself on each unit. The average gross profit to the distributor, when he turns a Bendix over to the dealer, is $25 a unit. His costs then run to an average of 60%. He is billed right on the invoice for $2.90 a unit for cooperative advertising, which is Bendix' way of making sure that he will spend that minimum for such purposes. And of course he has his fixed costs for the various franchise requirements—exclusive Bendix sales manager, home service director, serviceman, etc. On top of that, he has to figure in Bendix' share of his general overhead.

The dealer takes by far the biggest slice of the Bendix increment. There is exactly $100 difference between what he pays the distributor for a Bendix Deluxe and what he sells it for, and his average gross profit on both models is $90 a unit. What he nets on this depends on the individual dealer and the amount he chooses to spend for promotion and on compensation to salesmen. He must pay $5.70 a unit for cooperative advertising, a minimum $2.50 for the required post-sale demonstration, and a small amount for installation.

The Dealer's Share

His immutable fixed cost, therefore, amounts to little more than 10%, but he can run this up to 30 or 35% if he elects to pay his salesmen as much as 10% commission. On the outside, however, it is difficult to imagine any dealer's netting less than a "fifty-dollar bill" on any Bendix sale. And Bendix knocks itself out inducing him to sell the contrivance!

Obviously the Bendix, in its journey from factory to home, rolls up a cost higher than what was expended to put it together in the first place. At present, Bendix is producing at the rate of about 55,000 units a month. Of this 5,000 units go for export and 5,000 to the Telecoin operation, and these are not subject to customary markup. That leaves 45,000 units a month, or 540,000 a year, which are shipped to distributors.

The bare cost of building them, exclusive of Bendix' profit, is about $100 a machine, which amounts to a total of $54 million. Against this the total service and selling money expended to market them will amount to some $85 million.

Whether a spread of this size is a healthy thing for the U. S. economy is another story. The figures would add zest to the perennial debate, "Are distribution costs too high?" All Bendix knows is that its product is priced high enough to yield a profit margin interesting to the better distributors and dealers, but not high enough to warrant the company's setting up its own distributing system. The only explanation to this again is, "That's how washing machines are sold."

Whatever the future holds for Bendix Home Appliances, Inc., there is no gainsaying the fact that Jud Sayre and his associates ran away from the field in the first two years following the war, and handed out smarting lessons to their slow-starting competitors. And it is also true that if they fail to hold their advantage, the fault will lie largely in their stars rather than themselves.

While reaping the seller's market, they appear to have done the most intensive job of preparing for the buyer's market of any organization of its kind, though, of course, President Sayre's hard-driving, high-pressure methods have yet to be tested in rough weather. When the money ceases to roll in so readily, it is conceivable that the distributors might not respond so amiably to the firm hand on the rein.

There are already signs that Bendix may have an opportunity to "fall back to prepared positions according to plan." Although right now Bendix couldn't stuff a single warehouse, some eastern cities have gone off allocations. Philadelphia and Baltimore dealers, for example, can now deliver a Bendix within three days. Jud Sayre, who won a gamble that his early postwar business would multiply itself by eight, knows how to hedge a bet, too. He guesses that the washing-machine industry, which sold one and a half million units in 1939 and is currently selling at the rate of three million units a year, might level off to a sustained market of approximately two million units a year.

With the competition now coming in serving to make the public still more automatic minded, he thinks that automatic washers will claim at least 33% of that market. Sayre would be sorely disappointed if Bendix couldn't cut itself in for at least 50% of the automatic market, which would mean the sale of about 25,000 units (excluding driers and ironers) a month. His break-even point is now about 16,000 units a month.

But this kind of calculation is the dutiful product of Sayre in the conscious role of the chief executive. Sayre the supersalesman, meanwhile, permits no surcease in the everlasting "Advertise, Display, Demonstrate, and Close!" And his success is simply explained:

"If you have," he says, "something filling a need and performing its function properly, and good personnel built around it, all you have to do is go out and tell the world about it and nothing can ever stop you."

PURO
Electric
WATER COOLERS
BRANCHES IN PRINCIPAL CITIES
MAIN OFFICE
440 LAFAYETTE ST., N.Y. 3, N.Y.
PURO FILTER CORP. OF AMERICA
DRINKING WATER SPECIALISTS FOR 50 YEARS

WILSON
REFRIGERATION, INC.
- FARM AND HOME FREEZERS
- REACH-IN REFRIGERATORS
- WALK-IN REFRIGERATORS
- FARM MILK COOLERS

DIVISION OF WILSON CABINET CO., INC.
SMYRNA, DELAWARE

1 TRAY SERVES 3 WAYS!

Double Width-Triple Duty
INLAND DESSERT TRAY

Inland Dessert Tray and Separator available as shown with grids having pastel-tinted plastic partitions; or aluminum partitions of various designs. Pan Lifter is optional.

Here's a single ice cube tray that gives extra-efficient, multi-purpose performance! The double width Inland Dessert Tray performs these three important ice tray functions.
1. FREEZES double the number of ice cubes because it contains double grids with the handy separator between. The ice cubes can be quickly released . . . full sized and dry.
2. MAKES an ideal freezer for all types of desserts and salads when the grids have been removed from the metal pan.
3. STORES frozen food, meat, fish, fowl, game, vegetables, ice cream and other perishables.

This all-around efficiency makes the Inland Dessert Tray a favorite with people everywhere. Find out more about this remarkable ice cube tray.

For full particulars and prices write to
INLAND MANUFACTURING DIVISION, *General Motors Corp., Dayton, Ohio*

FAST FREEZING
QUICK RELEASING
ICE TRAYS BY INLAND MANUFACTURING
INLAND

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

order to produce reasonable margins of profit must be avoided for the good of the country as a whole. Anyone who contributes fuel to the consuming flames of inflation by raising prices beyond the bounds of sound business necessity and of justice is preying on the society that gives him his opportunity. The reduced value of money caused by financing the war, and the great increases in costs of material and labor, absolutely force higher prices. But, the man or the corporation that adds to inflation by profiteering is a fool whose folly hurts many people.

If in the next few days or weeks, Congress should feel that our people want more controls, and should consequently choose the road down which England has already gone too far, we will not have solved the price problem, but will eventually have less goods and a lower standard of living.

Should you, friend reader, agree with this premise, write your Congressman today to vote against rationing, allocation and controls.

How to Write to Your Congressman

1. Address him (or her) as The Honorable—M.C. (for Member of Congress) or The Honorable—U.S.S. (for U. S. Senator) or The Honorable—Senator from—County (for the State Senator from your County) and be sure of who is what.

2. Be local; tell your lawmaker how a National or a State legislative proposition or law affects your business, your industry, your community—give your views.

3. Be business-like; brief but not terse.

4. Be specific; if you are for something, say so. If not, don't hedge.

5. Be polite; your elected National or State lawmakers are entitled to and deserve dignified treatment.

6. Be reasonable; seek only possible things.

7. Be yourself; use your own letterhead and letter style; don't be party to chain letters of "floods" of letters or postcards or telegrams of identical character.

8. Request action; your lawmaker is elected to do something.

9. Ask for an answer; you've told him where you stand, now ask him where he stands.

10. Be appreciative; thank him for good votes, compliment his better speeches, let him know he is working hard on committees, and give a word of praise to his staff, too.

Efficiency Can Be Inefficient

This story we heard 25 years ago. But Truth is Stranger than Fiction, they say, so probably it has happened again. Anyway, here's the yarn:

A farmer's wife, who used to be calm, complacent, and cool, now finds that (quite by accident) she has become a local distributor for a large mail order house.

It all started with an advertisement for a butter churn, which appeared in a certain mail-order catalog. The farm wife admired the ad for this churn, and ordered it. Time elapsed, but the butter churn had failed to arrive. So she wrote the mail-order firm a follow-up letter, urging that her order be expedited.

Without checking their files, the catalog-concern sent her another churn. Consequently, the lady received two identical butter churns on the same day. Quickly she dispatched another letter to the mail order house—informing them of the error—and asking if she might return the second churn and have her money refunded.

In the meantime, however, a neighbor offered to buy the extra churn, so the farmer's wife wrote another letter, and enclosed a money order for the second butter churn.

This order was handled as a new one, and so the mail-order firm sent the unfortunate woman a third churn. This she managed to sell to another neighbor, so she sent the company still another money order.

This silly cycle recurred once more. In desperation, the befuddled farmer's wife disposed of a fourth butter churn to another neighbor.

But when the fifth churn was delivered to her door, the patient woman "blew her top." A bitter tirade was sent special delivery to the president of the mail order house. In this letter, she figuratively shook an angry forefinger at that personage and warned him that, although she might possibly find a buyer for a sixth churn, she would refuse point-blank to accept any more f.o.b. deliveries.

"I'm working so hard for you people," she wrote, "that I don't have time to bear babies any more."

The Mail-Bag

Gordon A. Mueller, Inc.
Long Island City 1, N. Y.

Editor:

The fact that I am in the refrigeration business makes reading the NEWS a must. I also read "Inside Dope" and the editorials. I was surprised to read your editorial in the Aug. 4 issue, regarding the H. C. of E. I really thought that after the death of O.P.A. (which, of course, was strangling business and initiative) that prices would remain stable; yes, that they would increase a little, but not much, you know—competition and all those things would keep prices in line.

"Inside Dope" notes with glee, that all predictions made by the "all wise" government economists since V-J Day have been wrong. Well, my pocketbook tells me that a hell of a lot of other so-called "economists" have been just as wrong, and believe me I am no communist, left winger or fellow traveler; I'm just doing what a hell of a lot of other guys are doing, trying to raise, clothe, feed, and educate three fine children, and buy the little woman a new hat and dress occasionally.

C. P. STAAB

Answer: It's true that prices of many things have risen since O.P.A. died. *But you can buy these things.* You are eating better than you ever did before, and your wife doesn't have to stand in line for hours to buy a pork chop or a pair of stockings.

Many of us were disappointed when the removal of government price controls in this country didn't result in lower prices. But we had no way of guessing how high wage-rates would be pushed up by union negotiators.

Yes, prices of food and clothing and shelter and jelly-beans are "out of this world." But so are wages. The big point is: Since O.P.A. died, production has increased steadily, business is good, and more people are employed at higher wages than ever before.

If O.P.A. were still alive, almost everything would be sold on the black market at prices far higher than those now posted in stores. And there might be considerable unemployment.

Take Another Look

The true weight of wartime inflation has been underrated by many businessmen and economists in evaluating general business conditions today, according to Walter M. Schwartz, Jr., president of Proctor Electric Co. of Philadelphia.

Recognizing that prices on most commodities are high now because of the prevailing high labor rate in most industries, Mr. Schwartz insists that there can be no severe recession so long as large segments of the country (such as farmers and organized labor) remain unprecedentedly prosperous.

"We realize that prices eventually may go too high, and that they could drop back," declares Mr. Schwartz. "On the other hand, we very much doubt whether they have reached their peak yet."

For the next few years, he predicts, industry in general will be operating in an atmosphere of general prosperity. "There is no major (price) correction which will substantially affect the over-all volume of retail sales in sight," he insists.

There's wisdom in these words.

Back To Fundamentals

"The time has come to call a halt to the aggressive tactics of Soviet Russia and her Communist dependencies," warns William Green, president of the American Federation of Labor. He further states that war with Russia is in the offing, unless definite steps are taken *now* to establish and maintain a frank understanding with that nation.

"Today, instead of international accord, we have international tension," continued Mr. Green. "The U. N. is united on paper only. The bitter truth is that a sharp split has occurred between the democratic nations on one side and Soviet Russia, with her Communist satellites, on the other.

"Soviet Russia has embarked on a deliberate course of expansion in all directions," he said. "She has reached out and seized the territory and the assets of neighboring states.

"She has plundered occupied territory. She has enslaved millions of former enemy workers and is driving them under conditions of forced labor to rebuild her economy. She has fomented revolution in nations, like China, where we are trying to restore stabilized conditions.

"Her agents are spreading propaganda hostile to the United States in Japan, in South America, and in other parts of the world," pointed out Mr. Green.

"Her satellite, Yugoslavia, which our own American boys helped to liberate and to whose starving people we are still sending vast amounts of relief supplies, has shot down and killed American flyers, bound on a peaceful mission."

Mr. Green declares that Communists in America "are trying feverishly to divide our people and to discredit the foreign policy of our country every time it runs counter to the policy of Soviet Russia. At a time like this, the American people must stand united in support of our Government's effort to maintain and reinforce world peace."

Putrid Handicap

It is not true, however, that a majority of the inhabitants of *any* country in this confused old world yearn for socialism or communism. Nor is it true that intelligent men in the still-free portion of the Earth are helpless to resist the sickening blatherings and the amoral encroachments of the Communists.

All the best arguments and the bulk of history's warnings are on "our side."

We can reiterate these warnings, and we can popularize the fundamental free-enterprise arguments, by employing the same emotional-appeal techniques that the Communists employ so devastatingly.

That is, we can ride to victory despite a weight handicap, and still win the race if we are willing to abide by the same rules of the track.

Are we too proud or too complacent or too "gentlemanly" to fight fire with fire?

Unthinking folk favor a "New Deal" only because they have been misled by porous propaganda which hasn't been challenged or rebutted competently and convincingly.

All that is needed to stop the trend toward socialism and despotism in a weary world is a resurgence of common sense and personal courage, and a return to those First Principles which we learned from our Mothers at bedside prayer-time.

Most Modern—Most Efficient
Most Economical To Use

The "NAT" Suspended GAS UNIT HEATERS

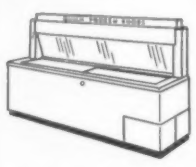
85,000-125,000 and 165,000 BTU Capacity
Available for Natural, Butane or Propane Gases.
Delivery within 3 or 4 days.
Some exclusive territories still available.

Union Made

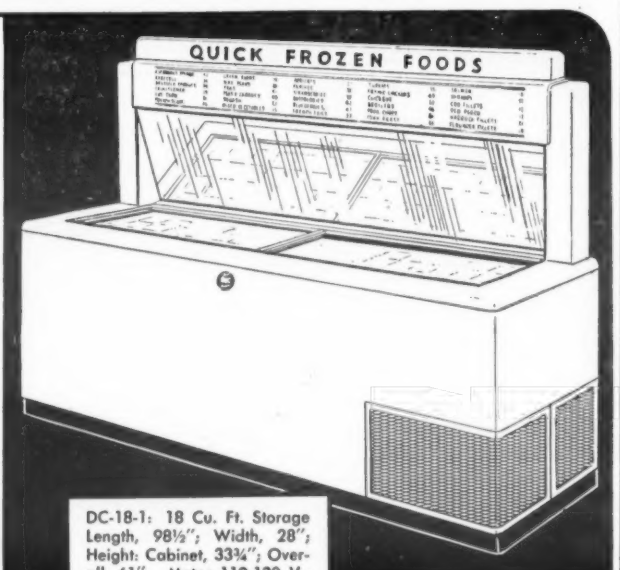
We also manufacture a combination heating and cooling unit, gas fired furnace and the NAT "Self-Contained" Air conditioning unit.

THE NAT CORPORATION
2710 McGee Trafficway Kansas City 8, Mo.

DC-12-1: 12½ Cu. Ft. Storage Length, 76"; Width, 28"; Height: Cabinet, 33¾"; Overall, 61" Motor 110-120 V.; Compressor, ⅓ hp.



DC-23-1: 23 Cu. Ft. Storage Length, 121"; Width, 28"; Height: Cabinet, 33¾"; Overall, 61". Motor 220 V.; Compressor, ½ hp.



DC-18-1: 18 Cu. Ft. Storage Length, 98½"; Width, 28"; Height: Cabinet, 33¾"; Overall, 61". Motor 110-120 V.; Compressor, ⅓ hp.

BTC *Frozen Food* DISPLAY CASES

- Heavy 16-gauge Bonderized Steel Cabinet and Superstructure
- High Bake White Enamel Finish
- Stainless Steel Top Capping and Channels
- Fingertip Sliding Double Glass Lids
- Full capacity Motor and Compressor for trouble-free, long-lasting service
- Vapor-sealed Insulation
- Modern Design built for open display and easy access.

Go after greater sales and profits with BTC Frozen Food Display Cases — complete line, 12½, 18, and 23 cubic foot storage. A limited number of dealer and distributor franchises are available. Write for full information.

THE BREWER-TITCHENER CORPORATION
CRANDAL-STONE DIVISION --- BINGHAMTON, N. Y.

EYE CATCHER

Outstanding in the display case field, the SHERER Model 500 offers food merchants—

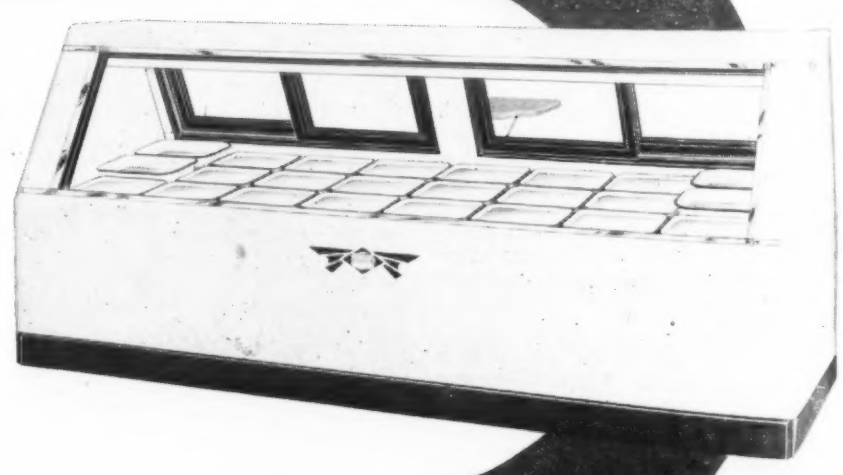
WORKABILITY—easy to work out of

VISIBILITY—customer sees all the display

CAPACITY—3 platters deep on one shelf

BEAUTY—gracefully rounded contours

It has everything expected in a *good* meat case.



SHERER REFRIGERATED MERCHANDISERS

SHERER-GILLETT CO., MARSHALL, MICHIGAN

Businessmen Get New Partner

Lawyer Warns Food Equipment Group On Effects of Community Property Act

By George M. Hanning

DETROIT—Michigan businessmen are going to have to sit down with their wives and get them to sign notes whether the little woman understands them or not, Raymond M. Shock, lawyer and secretary-treasurer of the Food Equipment Dealers Association, told that group recently in a personal analysis of the State's new community property act.

Shock declared that the act, which became effective on July 1 of this year, will not save small businessmen with incomes under $25,000 per year much money on their income taxes. However, it is liable to cost them plenty in other ways, he said.

NO AUTHORITATIVE RULINGS

"The act has many ramifications that are not even understood by lawyers," he stated. As it has not been authoritatively interpreted by the courts, it is wide open to interpretation. His views are strictly personal, he exphasized.

In essence, he said, it creates an estate in property between husband and wife whereby, as an incidence of marriage, each becomes vested with an undivided one-half interest in community property.

The act, however, does not affect any property held separately by either husband or wife prior to July 1, 1947, and does not affect any acquired after that date that they declare to be separate property, owned by either one or the other.

All other property of every kind, character, or description acquired by either one or both after July 1 and during their marriage is considered to be community property.

MAY AFFECT TRADE-INS

The law, according to Shock, restricts the dealings of either husband or wife in that community property so that one will need the consent of the other before he do certain things with it.

Particularly pertinent, he believes, is the stipulation that neither may dispose of or encumber household effects constituting community property without the consent of the other.

This, he says, may affect trade-ins, in that the consent of both parties will be needed to make the deal.

Another clause states that neither may dispose of or encumber real property, or lease community real property for a longer period than one year, unless the other joins in the instrument.

WIFE AS CO-SIGNER

This, he thinks, will require the wife to co-sign any business loans made to the husband if his business is classed as community property.

Banks, he said, are already requiring the wife's signature on such loans. Finance companies are expected to follow suit, he added.

Another provision of the law that is liable to cause difficulties, accordto Shock, is that upon the death of one spouse, all the community property of both, as well as the separate property of the deceased, is subject to the administration of the executor or administrator of the deceased spouse under the jurisdiction of the Probate Court.

PROBATE COSTS HIGHER

The Probate Court allows fees to the administrators or executors based upon the value of the estate being probated.

"The fact that all the community property comes under the jurisdiction of the Probate Court, the cost of administration is increased due to increased value and the court allows the administration expenses to be paid out of the community property and charged equally against one-half of the community property which belongs to the surviving spouse and one-half that passed to the deceased spouse," he declared.

Also under the Federal estate tax law, in the event that the wife predeceases the husband, one half of the community property will be included in her estate in determining the amount of Federal estate taxes payable, regardless of the fact that such property was derived solely from the earnings of her husband.

STRICT ACCOUNTING RECOMMENDED

Consequently, if earnings of the husband for personal services have been the sole source from which the community property was derived, the entire community property will be included in his estate in determining the amount of Federal estate taxes payable in the event the husband predeceases the wife.

In his analysis, Shock recommended that a strict accounting of both separate and community property and the income derived from each be kept to facilitate computing their tax returns.

For F.E.D.A. meetings in the early part of 1948, Shock is preparing analyses of the new Michigan Labor Act which became effective Oct. 11, 1947, and the new amended Compensation Act which takes effect on Jan. 1, 1948.

Feeling that these two pieces of legislation vitally affect dealers in the food equipment field, as well as in all other fields, Shock intends to answer any questions the dealers may have on them at the time of his talks.

Robertshaw-Fulton To Market Complete Line of Controls

YOUNGWOOD, Pa.—Formation of the Robertshaw-Fulton Controls Co. through the merger of the Robertshaw Thermostat Co. here, the Fulton Sylphon Co. of Knoxville, Tenn., and the Bridgeport Thermostat Co. of Bridgeport, Conn., has been announced by John A. Robertshaw, president.

"Purpose of the merger," he stated, "was to integrate the development, manufacture, and merchandising of a complete line of automatic temperature controls for household, automotive, industrial, and commercial use."

Plants of the new firm, located here and at Knoxville, Bridgeport, St. Louis, and Lynwood, Calif., are claimed to be one of the largest producers of automatic temperature controls for heating, ventilating, and air conditioning, and industrial process controls.

They are claimed also to be the largest producer of seamless metal bellows and bellows devices, and gas and electric domestic oven and water heater thermostats.

J. V. Giesler, formerly president of the Fulton Sylphon and Bridgeport Thermostat companies, was elected executive vice president of the new firm, remaining in command of these two divisions.

T. T. Arden was elected executive vice president in charge of the Grayson division at Lynwood.

see your "DETROIT"
WHOLESALER
for
Expansion Valves
Solenoid Valves
Controls
"DETROIT"
2810
DETROIT LUBRICATOR COMPANY General Offices: 5900 TRUMBULL AVENUE DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION
Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG
"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories
"Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators
"DETROIT"
EXPORT DEPARTMENT—Box 218, Ridgefield, New Jersey

Job After Job Calls for Heating *and* Cooling . . .
GET THE CONTRACT FOR *Both*...WITH TRANE PRODUCTS

Job after job now calls for both heating and cooling. Since the functions are so closely allied, often being accomplished with much of the same equipment, heating and air conditioning *must* be considered together.

Architects, engineers, and owners prefer a minimum of contracts and responsibilities — so the contractor who can bid on the whole job has a much greater chance of getting it. The contractor who cannot bid on the whole job may likely lose it to one who can.

Heating and air conditioning are so closely related, from figuring the job through installing it, that it is only logical for the contractor to grow with the industry by combining heating and air conditioning. In this way, the contractor has peak business the year around, and is assured of a steadily increasing market in remodeling and modernization work, as well as in new construction. Just as the contractor needs both heating and air conditioning to make his service complete, the heating and air conditioning industries need additional contractors so that they can expand to meet the enormous demand.

Trane is the ideal source of supply for the independent contractor who combines heating and air conditioning. The complete Trane line includes every necessary product for entire heating and air conditioning systems — giving the contractor the undivided responsibility of *one* manufacturer. Trane field engineers in 85 field offices are constantly available for help and advice in any phase of heating and air conditioning.

TRANE
Manufacturing Engineers of Equipment for
HEATING AND AIR CONDITIONING
THE TRANE COMPANY, LA CROSSE, WISCONSIN • Also TRANE COMPANY OF CANADA, LTD., TORONTO, ONTARIO

Available for Immediate Delivery

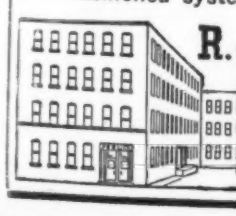
PERLICK DIRECT DRAW DISPENSERS

Completely Equipped-Ready to Install

The last word in beer dispensing equipment is at your call again, for immediate delivery. Proper tasting beer, of uniform temperature, with the right collar is assured with Perlick Direct Draw. Investigate now!

WITH THE EXCLUSIVE AIR COOLED FAUCET STANDARDS

Only Perlick manufactures the Air Cooled Faucet Standard that maintains uniform temperature—eliminates the "spit" of old-fashioned systems. A patented feature!



R. PERLICK BRASS CO.
3115 W. MEDUCKE AVE.
MILWAUKEE 10, WIS.

They'll Do It Every Time . . . . By Jimmy Hatlo

AROUND HIS OFFICE, ANYBODY SPEAKING ABOVE A WHISPER IS LIABLE TO GET THE BOUNCE···
FIRE THAT BOY ON THE SPOT! CLOSE THE WINDOWS! MISS DIMWITTY, EITHER OIL THAT TYPEWRITER OR RESIGN! I DEMAND QUIET!
QUIET PLEASE
MANAGER
COPR. 1946, KING FEATURES SYNDICATE, Inc., WORLD RIGHTS RESERVED.
4-16

AT THE EL CLIPPO CLUB HE SLIPS THE CAPTAIN FIVE BUCKS FOR A RINGSIDE TABLE BY THE DRUMS
Thanx to JONAS PERLBERG 5016 N. WINTHROP, CHICAGO, ILL

It's Time To SELL Again!

One of a series *of messages to help you increase your understanding of business paper advertising, and its effect on your business.*

What happens when the "push-overs" start pushing back?

ASK ANY GOOD SALESMAN, and he'll tell you that the lush days are just about gone—along with shortages, slow production and the sellers' market.

Today, customers are playing hard to get. The "push-overs" are beginning to push back. Production isn't lagging any more—it's already nearly double the pre-war level, and fast catching up with demand. There's plenty of healthy competition in sight. And you can be glad there is.

American business has always thrived on competition. It still can. But the machinery of selling and distribution will have to work at peak efficiency.

And that means — *more mechanization!*

Mechanization is simply the application of assembly-line methods to the *manufacture of a sale.* It's the only way to balance mass production.

With mechanized selling, you won't turn prospects into "push-overs," but you'll certainly get them leaning your way. By exploring the field, arousing interest, creating a preference for the things your company makes, mechanized selling multiplies the productive capacity of your sales force by the hundreds, or thousands, or by any number your market requires.

But this machine is no stranger to *you.* You know it by its first name—ADVERTISING.

We'd just like to point out that now is the time to put the machine to work, more consistently, more aggressively than ever. And remember that when your advertising goes to work in the right business papers, with their tremendous concentration of hand-picked readers, it becomes *the most efficient machine* you can use for manufacturing sales at a profit.

Just how efficiently does business paper advertising work? If you'd like to see some examples, we'll be glad to send you a recent ABP folder on actual results. Also, if you'd like reprints of this advertisement (or the entire series) to show to others in your organization, you may have them for the asking.

AIR CONDITIONING & REFRIGERATION NEWS

is one of the 129 members of The Associated Business Papers, whose chief purpose is to maintain the highest standards of editorial helpfulness—for the benefit of reader and advertiser alike.

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark registered U. S. Patent Office; Est. 1926

AIR CONDITIONING AND REFRIGERATION News

Copyright 1947, Business News Publishing Co.

F. M. COCKRELL, *Founder*

Published Every Monday by BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich. Telephone Randolph 0924.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $5.00 per year; 2 years $8.00. All other foreign countries: $7.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Please send remittance with order.

GEORGE F. TAUBENECK
Editor and Publisher

PHIL B. REDEKER, *Editorial Director*

C. DALE MERICLE, *Associate Editor*
JOHN SWEET, *Assistant Editor*
ROY DENIAL, *Assistant Editor*
HUGH MAHAR, *Assistant Editor*
GEORGE HANNING, *Assistant Editor*
Editorial Assistants: FRANCES WEED, MARCELLA PRICE, MARGARET DEAN

E. L. HENDERSON, *Business Manager*
ELIZABETH SMITH, *Assistant Bus. Mgr.*
ROBERT M. PRICE, *Adv. Representative*
ALLEN SCHILDHAMMER, *Adv. Rep.*
YVAUGHN CRYSLER, *Subscription Mgr.*
WALTER J. SCHULER, *Production Mgr.*
ROBERT P. NIXON, *Credit Manager*

Member, Audit Bureau of Circulations. Member, Associated Business Papers.

VOLUME 52, NO. 18, SERIAL NO. 980, DECEMBER 29, 1947

Divide and Rule

'TIS a Machiavellian principle that to stay in power, a governor must *divide* his subjects, and get them to fight with one another. All the European empires (including Great Britain and, in these times, Soviet Russia) have operated on this principle. Said principle is typical of Old World thinking. It assumes that to gain riches, one must steal them from the prosperous (either by conquering the "rich" in battle, or by expropriating their savings through *fiat* government decrees).

This horrid principle presumes that all progress and creation are over and done with, that no new industries will be conceived, that no more explorations can be undertaken, and that the world's total wealth cannot be increased.

"There's no use trying to do something new or work out a new idea," the Old World philosophers mourn. "All you can do to better your lot is to divide the wealth we now have. If you're ambitious, remember that To Divide Is to Rule."

There's another side to that sculpture—the ugly back side: To divide is to tear up, and destroy. National honor and prestige can be dissipated when undermined by quarrelsome heirs-apparent and gangster-type interlopers. Empires sink without a trace when they are partitioned (contemporary example: the fast-fading British Empire).

True, a gangsterish newcomer to the political scene (an interloper) can push deserving veterans out of his path and keep them at bay *for awhile* through long and short division of present assets—and through sheer, galling nerve—but in so doing he punishes the nation-as-a-whole (and the world) because he decimates and undermines personal responsibility. And the latter is what makes the world go 'round.

Whenever gangster-type politicians get control of a nation, and attempt to divide its wealth, that nation gives up hope. And it seals its own doom. As soon as its citizenry is sold the false notion that multiplication of national assets (hope) is no longer possible, and that division (desperation) is to be the order of the day, people quit trying, and murmur: "Why work? Where will it get you? Let the government take care of you. Take it easy."

Moses bumped into this negative attitude after he led the Israelites out of bondage in Egypt. Having lost all hope generations ago, his freed-from-slavery followers refused to fend for themselves when put to the test of *personal responsibility.* They insisted upon their "rights" to be *led and fed.* Decades of slavery had made them supine, cringing, and downright lazy.

They wanted a Leader, and Guidance. So Moses brought down from a mountain vigil (a beautiful bit of publicity-promotion, incidentally) an impressive stone tablet. On this hunk of marble a stone-cutter had engraved the Ten Commandments. Ah! This was what they wanted. After reading the Ten Commandments, they rested again. At last, a Leader had told them what to do.

But wait a moment. What's this? Not one of the Ten Commandments tries to *plan* a human being's life. Rather, they are a set of prohibitions, and warnings that a Real Man should think for himself. And this is significant: three of the Ten Commandments prevent men from conjuring up any image or description of God. Moral: "The Kingdom of God is within you," as St. Paul said. Every man must work out his own philosophy and his own destiny if he is to be righteous and blessed and happy. *He must depend upon himself.*

"Divide and rule" is not only an Old World concept, but it's also unChristian. Jesus Christ was a prime individualist. "What shall it profit a man," He asked (and there was none who could answer) "if he gain the whole world and lose his own soul?" Communists please note.

Old World divisional philosophy denies men the right to think, speak, worship, act, or dream—unless they submerge their souls into the tides and streams of totalitarianism. It turns men into faceless, mechanical automatons beholden to a despot who divides all opposition, singles out the non-cooperative for torture and liquidation, and rides roughshod over those who insist upon being themselves. It's the philosophy of Communism, but it's not the philosophy of Christ.

HE GOES BACK FOR A SECOND READING

Pacific Scientific Co.
25 Stillman St.
San Francisco, Calif.

Editor:

Your journal is so much a part of the weekly activities at all three of our offices that we would feel quite at a loss if, for some reason, it didn't arrive on schedule. There is no other publication that gives us such a complete picture of what is going on in the industry.

I have long wanted to write you of my appreciation of your editorials —my very sincere appreciation of your presentation of our way of life in such readable form. The fact that your journal has such a wide circulation throughout the industry means that your editorials will reach many small businessmen—the soundest group of our citizens—who may never have had the time or opportunity to enable them to understand the essentials of our economic and political life.

Frankly, I must confess that I always read your "Inside Dope" column first and often return to it for a second perusal. Each time I do so I hope for its wider distribution. And if I don't always agree with the editor's every word, I can still agree heartily with his general thesis.

D. HANSON GRUBB,
Vice President

'ONE FOOT' AS CLIMAX TO SALESMEN'S COURSE

Keystone Trailer & Equipment Co.
Kansas City, Mo.

Editor:

Recently the writer held a regional sales meeting of our branch managers and salesmen. I had the pleasure of reading "One Foot in the Door," by George F. Taubeneck.

Frankly, the thoughts contained in his book as expressed by Mr. Patterson constituted practically all of the discussion given to the men. However, one of the most amazing things was that we ran, at our noon luncheon, a sales film which was quite expensive to the company and was intended to convey good selling habits to the salesmen. The amazing thing was that you could almost believe that the film was written from this book. It proves to the writer that there is really nothing too new in good selling habits. It is just that they are expressed in a multitude of ways.

I informed our salesmen the source of the information contained in my talk to them. We have requests from our men for 12 of these books. We do not believe in giving something for nothing. These men are paying for this on a basis of 50% of the cost. Our only reason for charging is that we want them to feel that it is something of value, and being of value, it will be appreciated.

Will you, therefore, advise us the cost to our company of these books in the above quantity, and if it would be possible for us to secure autographed copies, as I feel that this would be a fitting climax to a meeting predicated upon the book Mr. Taubeneck wrote? We will appreciate your immediate attention to this as we do not wish too great a lapse of time between our meeting and the presentation of the books.

Please express to Author Taubeneck the writer's compliments for a job well done. This book, as you can appreciate in the foregoing, was of considerable help to the writer. I would appreciate a catalog of any similar publications.

K. J. KIRKPATRICK

WAR VETERAN SEEKS RETURN TO INDUSTRY

1220 Laurel Ave.
Oroville, Calif.

Editor:

I am writing to you to request your advice.

My last letter to you was written while I was in service and you used it for a theme for your editorial of Jan. 29, 1945.

I was discharged in October, 1945 at which time conditions in the refrigeration field in this section were pretty bad due to supply conditions, so at the time I was forced to look further for employment. I subsequently went to work in the building trades and have since lost contact with the refrigeration industry.

I would like to know just what procedure you would advise me to follow to get back in the refrigeration field preferably with a manufacturer.

I have had besides my Navy experience several years of service work, about eight months of selling commercial refrigerators which was terminated by the 1942 freeze on new equipment. I was Supervisor of Refrigeration for the Post Engineer at Camp Beale immediately preceding my enlistment in the Seabees.

My only schooling in refrigeration has been a completed correspondence course.

I was an Associate Member of the A.S.R.E. in 1942.

I am entitled to 41 months of either schooling or on the job training under the G.I. Bill of Rights.

Frankly, I am at a loss as to how to make the first step.

I would certainly appreciate any information or advice you could give me.

HARRY A. PHILLIPS

Georgia Power Holds to 18-Month Payments

ATLANTA — The Georgia Power Co. has announced its revised plan for instalment purchase of residential appliances whereby the customer may pay a minimum down payment of 20% with an 18-month limit for maturity. Except on small appliances, the minimum monthly payment is $5, it was stated.

No immediate nor large scale return to long-term buying was visualized by power company merchandising men as a result of the recent removal of government controls.

"A cash or short-term transaction is generally more satisfactory, to both the buyer and the seller," stated W. B. Farnsworth, manager of the utilities' merchandise division. "Both parties usually recognize that fact.

"If terms are desired, good merchandising policy requires that the salesman secure a down-payment as large as possible and run the account the minimum number of months agreed to by the customer, regardless of the number of months permitted," he continued. "Minimum down payment and maximum length of term are recommended only where they are needed to consummate a sale."

Detroit Food Equipment Dealers Plan Jan. Affair

DETROIT — Election of a new board of directors for the local Food Equipment Dealers Association will feature the annual dinner meeting of that group to be held on Tuesday, Jan. 27 in the Sky Room of the Fort Shelby hotel here.

THE NEW
KEL-KOLD
REFRIGERATION
CONDENSING UNIT

Direct Drive Efficiency
No Seal Trouble
EQUIPPED WITH G. E.
Hermetic Sealed
Motors

Deliveries Immediate

DEALERS
DISTRIBUTORS
WANTED
PROTECTED
TERRITORY

¼—⅓ HP. Sizes
High and Low Temp.

Phone Write or Wire

PERCHAN & CO. 1640 East 65th St., Cleveland, Ohio

Refrigeration - Air Conditioning - Heating - Parts and Supplies

Same Day Service—From Our Complete Stocks

A Copy of Our Latest Catalog Furnished on Request

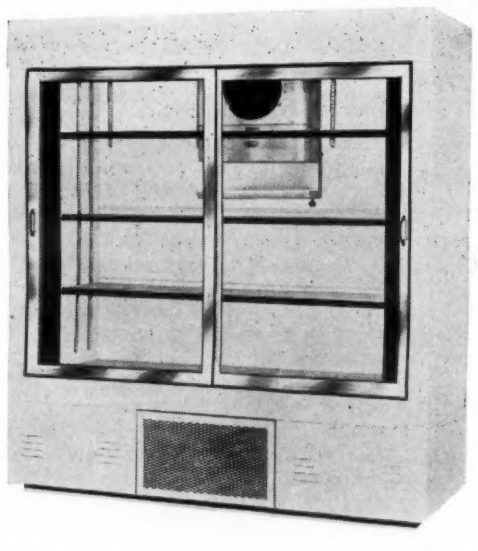
26,000 sq. ft. of Store and Warehouse Space

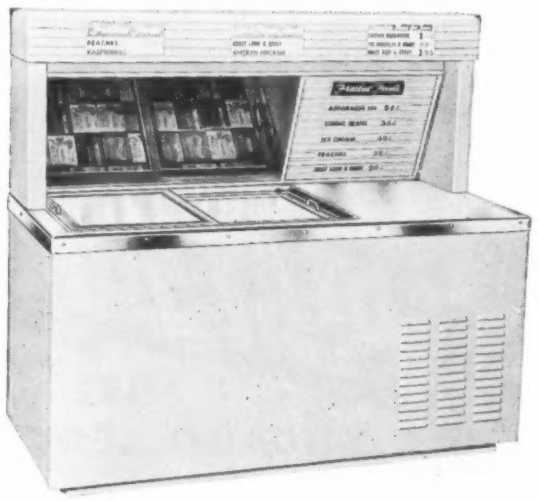
THE SUPPLY HOUSE THAT SERVICE BUILT

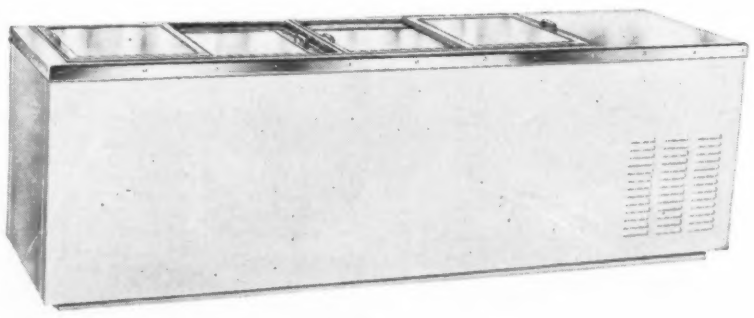
SERVICE PARTS CO. 2511 LAKE STREET MELROSE PARK, ILLINOIS

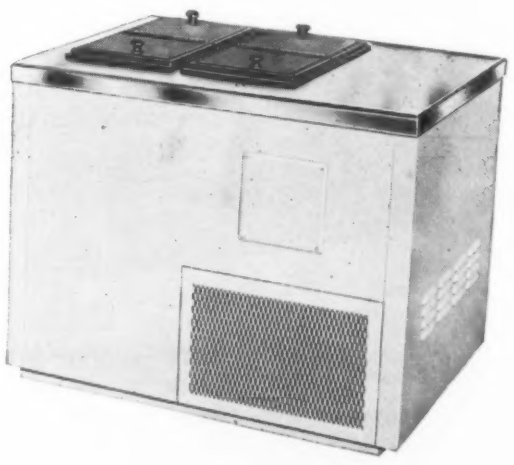
The **FRANKLIN LINE**

FOR *Appearance Performance Dependability*









Check These Features:

- All steel welded construction
- Hydroleened insulation
- Easy sliding glass doors
- Smartly styled
- Economical to operate
- Immediate delivery
- Attractive low prices

Several Dealer Franchises Available

Manufacturers

FRANKLIN REFRIGERATION CO.

Factory and National Sales Office

805 EAST 145 STREET NEW YORK (55), N. Y.

FROZEN FOOD DISPLAY CABINETS • DAIRY CASES • BEVERAGE COOLERS • ICE CREAM CABINETS

DISTRIBUTORS WANTED!

If you can handle sales, installation and service for Multiplex Fixtures for Bars and Taverns—then it is quite possible for you to add $50,000 or More per year in Sales.

Distributing:

The Sensational New MULTIPLEX BAR DISPENSER

Designed and Engineered for Tavern and Bar Service

- √ IT ELIMINATES BOTTLES
- √ IT MANUFACTURES FRESH carbonated soft drinks (seltzer, cola, lemon, ginger ale, etc.) as easily as drawing a glass of beer
- √ IT SPEEDS BAR SERVICE 100%. Increases profits tremendously

Write us for Free Bulletin

MULTIPLEX FAUCET COMPANY

Manufacturers of Soft Drink Dispensers for over 40 years.

4319-25 Duncan Ave. (Division 12) St. Louis, Mo.

Insist on genuine Marlo Products
MARLO = HEAT TRANSFER
Since 1925

Lipman
AUTOMATIC REFRIGERATION
For all types of refrigeration installations. Available in sizes ranging from ¼ thru 40 H.P.
LIPMAN units are available for use with Methyl Chloride, Ammonia and Freon 12 refrigerants. Recognized for outstanding economy and dependability, the name of LIPMAN has become the "buy" word in the commercial refrigeration field.
GENERAL REFRIGERATION
DIVISION
YATES-AMERICAN MACHINE CO., Beloit, Wisconsin

What's New

Powered Device Sharpens Knives at Correct Angle

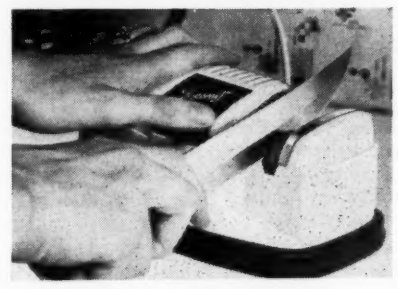
CHICAGO—G-M Laboratories, Inc. here has recently introduced a motor-driven electric knife sharpener, which it is said will sharpen the blade at the right angle and to the correct degree without previous skill or effort from the operator.

To be marketed under the trade name "Surf," the unit consists of a wheel with a guide on both sides to assure consistent and proper angle of grinding. The wheel travels 1,000 f.p.m., said to be the ideal speed for the purpose. Gouging and over-sharpening, according to the manufacturer, are eliminated by the fact that the wheel automatically stops when excessive pressure is exerted, or more than the cutting edge of the blade comes into contact with the wheel.

A hand operated pressure panel switch prevents the possibility of leaving the appliance running when not in use, it is pointed out.

Although primarily intended for home use, the sharpener has many commercial applications in hotels, meat markets, institutions, etc.

The Surf knife sharpener case is

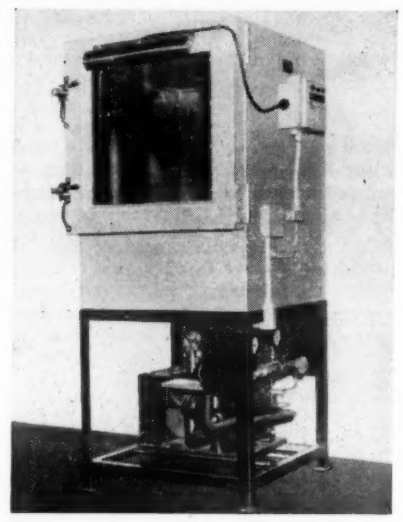


"Surf" knife sharpener

a heavy die casting with white enamel finish, polished stainless steel guide plates, and a rubber base moulding. It houses a 1/80 hp., 60 cycle a.c. motor, which is fan cooled. A special compartment is provided for storing the 6-ft. cord with plug, according to G-M Laboratories.

Retail price of the unit is $9.95, complete with the plastic cord.

Tenney Self-Contained Lab Testing Unit Introduced



* * *

NEWARK, N. J.—A new self-contained laboratory testing unit has been announced by Tenney Engineering, Inc., here.

The announcement states the unit has facilities for accurately controlling temperature and relative humidity within a working chamber having a clear space 18 x 18 x 18 in.

The manufacturer asserts that the temperature within the chamber in the regular model can be varied over a range from 20° F. to 200° F. An extension of this temperature range is available when desirable. Any required temperature within the established limits may be reached quickly. The maximum rate of temperature change is 20° F. per minute. When the desired temperature is reached, it can be maintained within a tolerance of plus or minus 2° F.

It is claimed that the relative humidity can be controlled above or below ambient, at a minimum wet-bulb temperature of 33° F. An extended surface dry-expansion coil is used to lower the temperature or relative humidity, and operates independently.

It is further claimed that power consumption will not exceed 1.8 KW. Standard models are equipped for operation on 115 volt, 60 cycle, single phase current, but may be had to operate on 230 volts when desired.

The conditioning equipment is mounted directly beneath the working space in the chamber and includes a heating unit, vaporizer type of humidifier, and a ⅓-hp. air cooled compressor, with the Tenney thermostatic expansion valve incorporated in the refrigeration system. An external light provides illumination of chamber interior during tests and an inspection port on the door affords a view of the working area.

Close control is provided through accurately calibrated thermostatic elements and dial-type temperature indicators.

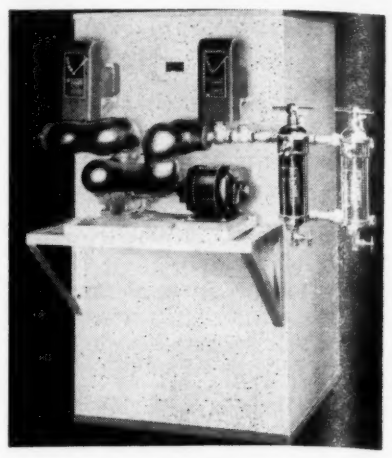
It is claimed that versatility of control for creating any desired condition is greatly facilitated through conveniently located, independent switches for heating, cooling, humidifying and de-humidifying circuits, and the inclusion of an air-flow damper to proportion the air-flow through the heating and cooling compartments. Fresh air inlet and outlet are provided when conditions require their use.

The interior of the working space in the chamber is made of copper or stainless steel to withstand conditions within the cabinet during tests and to permit thorough cleansing of the surfaces without harm to the cabinet.

New Solar Bulletin Lists Revised Capacitor Line

NORTH BERGEN, N. J.—A revised line of A-C motor starting electrolytic capacitors and of Superex paper capacitors for capacitor-type motors and power factor improvement of small induction motors, is shown in Catalog Bulletin AC-1 which is now available from Solar Capacitor Sales Corp., 1445 Hudson Blvd., North Bergen.

All capacitors listed in this bulletin are manufactured to comply with the proposed standards for specialty capacitors now being considered by committees of the National Electrical Manufacturers Association.



* * *

Water Cooler Evaporator, Tank Are Stainless Steel

BROOKLYN — Filtrine Mfg. Co. here is introducing a new, low temperature, stainless steel water cooler and water conditioner for bottlers.

Being of storage type design, the new cooler is said to offer large capacities of taste-free, 34° water for "peak draw" carbonation requirements in excess of 600 gallons per hour.

The use of stainless steel in the cooling tank and evaporator and in all other parts of the cooler coming into contact with water, plus the fact that it is of the latest closed-type construction indicates that the new cooler offers many improvements in sanitation, efficiency, and long life.

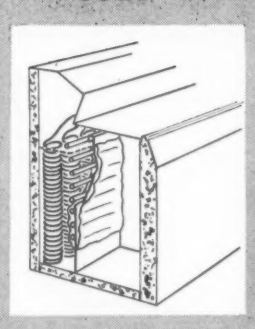
Additional features which, it is claimed, help to make this new unit the only one of its kind, include: water filter-dechlorinator, 300 gallon storage and better than 3 in. cork insulation throughout.

The new cooler is available in a wide range of capacities and models including a completely packaged model of polished stainless steel exterior and incorporating cooler, filters, and space for compressor in one unit—a feature designed to cut down on installation costs, and at the same time make the cooler blend in with the other stainless equipment in the modern bottling plant.

Delivery on standard models is said to be six to eight weeks with special models fabricated upon request.

ACME PRODUCTS
Freon Condensers
Dry-Ex Water Chillers
Evaporative Condensers
Forced Convection Units
Oil Separators
Liquid Receivers
Heat Exchangers
Pipe Coils
Hi-Peak Water Coolers
Flooded Water Coolers
Ammonia Condensers
Continuously serving the refrigeration industry SINCE 1919
BOOTH NO. 604
CLEVELAND EXPOSITION
ACME INDUSTRIES, INC.
651 Mechanic St., Jackson, Mich.
REPRESENTATIVES IN PRINCIPAL CITIES—SEE YOUR TELEPHONE BOOK

Everfrost
SODA FOUNTAIN EQUIPMENT
JUST ONE OF THE MANY FEATURES THAT SMART MERCHANTS PREFER ABOUT EVERFROST FOUNTAINS
THE Everfrost COLD WALL

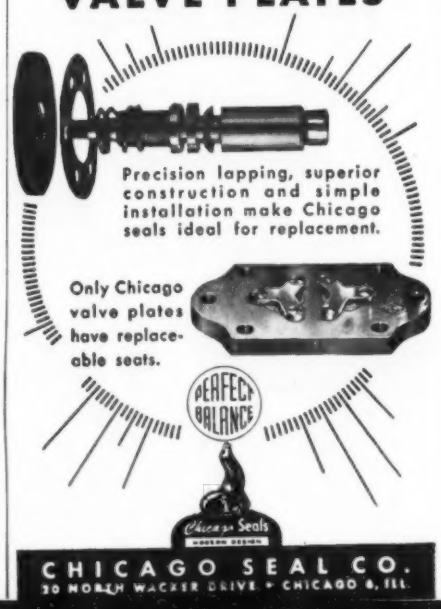


The Empire "60"

Foremost in the features of Everfrost fountains is the cold wall refrigeration which means no exposed coils . . . but this is just one of many unusual features that create instant acceptance for Everfrost fountains . . . Fountain dealers and distributors—here is a profitable, fast selling line that's built right and priced right. Write or wire for franchise information today.

ANDERSON & WAGNER INC.
8701 South Mettler Street • Los Angeles 3, Calif.

PLAYSAFE
USE CHICAGO SEALS and VALVE PLATES


Precision lapping, superior construction and simple installation make Chicago seals ideal for replacement.
Only Chicago valve plates have replaceable seats.
PERFECT BALANCE
Chicago Seals

CHICAGO SEAL CO.
30 NORTH WACKER DRIVE • CHICAGO 6, ILL.

FOGEL
PHILADELPHIA, PA.
The FOGEL Improved "Armor-Clad" Walk-in Cooler

"RUGGED"

Solid, sturdy construction makes this rugged FOGEL "Armor-Clad" Walk-In Cooler the *best* in its class. This famous FOGEL-Improved cooler has many noteworthy advantages, such as:

★ Portable and sectional . . . easily enlarged to fit *your customers'* growing needs.
★ Easily erected by two men.
★ Beautiful aluminum exterior, rust-proofed steel interior.
★ The combined knowledge and efforts of master craftsmen and top-flight engineers, have gone into the exclusive design, construction, and operation of this cooler to give *YOU* a *sure sale* profit maker.

You can depend on the FOGEL-Improved "Armor-Clad" Walk-In Cooler for lasting customer satisfaction. Feel welcome to write for further information concerning these, or other, FOGEL Quality-Engineered refrigeration items.

Now Available for Immediate Delivery

One franchise gives you a complete commercial refrigeration line.

FOGEL REFRIGERATOR COMPANY
5400 EADOM STREET • PHILADELPHIA 37, PA.
Quality manufacturers, for almost one-half century, of Display Cases, Reach-Ins, Walk-Ins, and Freezers.

In Norge Washer Post

PAUL N. BERNER

* * *

New manager of home laundry equipment sales for Norge, he was formerly with Lovell Mfg. Co. where he served successively as advertising-sales promotion manager and then as head of sales.

G-E, Westinghouse Resume 'Time-of Shipment' Pricing On Some Heavy Apparatus

DETROIT — General Electric Co. and Westinghouse Electric Corp. last week discontinued their firm price policies on heavy apparatus and returned to "price in effect at time of shipment" policies.

But both companies limited price increases between the time an order is taken and the time equipment is shipped to 20%.

Announcements of a return to escalator prices said the new policies affect such products as motors, generators, power transformers, switchgears, turbines, and locomotives. There was no mention of electrical appliances.

G-E and Westinghouse explained that business is being booked as far ahead as 1950 in some cases and that steadily rising costs and uncertainties of such a long production period make firm pricing abnormally risky.

Partlow Heads G-E Sunlamp, Heater Sales

BRIDGEPORT, Conn. — Robert D. Partlow has been appointed sales manager of the General Electric Co.'s sunlamp and heater section, reports D. C. Spooner, Jr., manager of the automatic blanket and sunlamp division.

Partlow attended the University of Illinois before joining General Electric in 1937. He was transferred to the Chicago service station in 1938 and was subsequently a district appliance sales specialist in the Chicago and Minneapolis offices. Returning to Bridgeport in 1942, he held various positions in the automatic blanket and sunlamp division until he entered military service in 1943.

In his new position, Partlow is responsible for the sales of sunlamps, heat lamps, portable heaters, heating pads, and footwarmers. He succeeds Earl H. Norling, who has been given responsibilities in connection with the company's retail development and sales education programs for all appliances.

Deepfreeze Names C. T. Redding

PHILADELPHIA—C. T. Redding is the new Deepfreeze district sales manager for the Philadelphia district.

Redding will maintain headquarters in Philadelphia, and report to H. E. Markland, Deepfreeze regional sales manager of the eastern region.

Public Relations Drive To Stress Oil Conservation

NEW YORK CITY—A small army of public relations, advertising, and promotional men is currently being martialed by the oil industry. Objective: to capture public cooperation by explaining the "herculean" efforts being put forth by the industry to keep up with peak demand.

Opening gun of the campaign was fired during the past few weeks when members of a specially-appointed subcommittee of the American Petroleum Institute met here to "take whatever steps necessary to bring to public attention the need for rigid conservation. . . ."

Hard on the heels of a proposal in Congress to resume fuel rationing, the action was accompanied by a simultaneous announcement from the API that its entire public relations operating committee would meet in Boston Jan. 15. Purpose of this meeting would be to discuss supply and demand with local members of the oil industry.

In initiating the drive, the API urged the subcommittee to seek cooperation of the industry's public relations committees, oil trade associations, companies, distributors, and dealers in appealing to the public.

To supplement the API's more than $600,000 public relations-advertising budget for 1948, a high six-figure amount will very likely also be appropriated, a spokesman said.

The industry intends to stress oil-saving methods in those areas where current "unprecedented" demand exceeds available supply. In addition, the public relations campaign will endeavor to acquaint consumers with what the industry is doing to expand production, refining, transportation, and distribution facilities.

F.E. Ince Joins Staff of Consulting Engineers

ST. LOUIS—F. Edward Ince, former vice president in charge of application and research for Kennard Corp. and member of the board of directors, has joined the staff of Sverdrup & Parcel, consulting engineers here.

Ince joined Kennard in 1940 as a design and sales engineer. When Kennard's business was curtailed due to the war, he became successively an engineer for Fruco Construction Co., St. Louis; a mechanical engineer for Giffels & Vallet, Inc., Detroit; and senior mechanical engineer for James R. Kearney Corp., St. Louis.

He rejoined Kennard in 1945, taking the positions of sales manager and chief engineer. In these positions, he assisted in the development and expansion of Kennard. He recently resigned as vice president to associate with Sverdrup & Parcel.

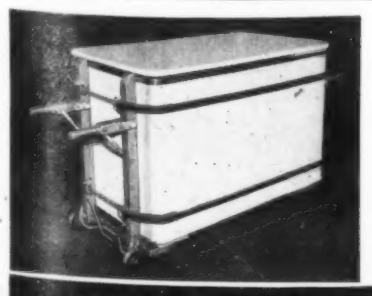
Ince was owner of Refrigeration Service Co. in St. Louis. He was also with Alco Valve, The Spangler Co., and Iron Fireman.

He is a member of the ASHVE, ASRE, and NSPE, and serves on the technical committee of the St. Louis chapter of the ASRE.

Distributor Appoints E.L. Bosley Sales Manager of Allied Lines

CLEVELAND — Appointment of Earl L. Bosley as sales manager of allied lines, other than Bendix, has been announced by C. J. Laufersweiler, president of Northern Ohio Appliances, Inc., distributor of Bendix automatic home laundry equipment and other appliance lines.

Most recently regional sales manager for Kaiser Fleetwing Sales Corp., Bosley has been in the appliance field since 1936. Previous associations included Weatherhead Co., Cleveland; Graybar Electric Co.; and the Federal Lighting division of the Franklite.



HERE IS JUST WHAT YOU'VE BEEN LOOKING FOR—An Easy Way To Handle Stoves, Refrigerators & Freezers

PROTECT YOUR MERCHANDISE WITH

THE ROLL-OR-KARI DUAL TRUCKS

EQUIPPED WITH THE NEW WEB-LOCK AND TIGHTENER. Patented Step-On Lift. Folding Handles.

THE ROLL-OR-KARI CO.
MANUFACTURERS
ZUMBROTA • MINNESOTA

WRITE TODAY FOR PRICES AND FULL INFORMATION 1000 LB. CAPACITY SHIPPING WT. 40 Lbs.

★ NUMBER THIRTEEN ★

The Price Makes It Attractive

UNDOUBTEDLY, MR. DEALER, you will hear many pros and cons on the subject of "packaged" air conditioners versus "engineered," tailor-made jobs. Please don't be alarmed, dismayed, or confused by these conflicting arguments.

It is true that any number of central-station installations have not been correctly designed, and are not satisfactory either to owners or patrons. It is also true that in the first blush of enthusiasm for a new product, specialty dealers have put room coolers in spots too big or too open for these units to operate satisfactorily.

There is this big difference between the two types of air conditioning, however: if a central station system is faulty, it can't be repossessed without somebody taking a terrific licking. On the other hand, if a "packaged" air conditioner isn't effective in a certain location, it can be removed and installed in another place where it will be satisfactory.

Because they utilize coils, motors, compressors, and controls which are built in large quantities for other purposes, "packaged" air conditioners can be manufactured by assembly line methods at relatively low cost. Shipping costs of these standard units are comparatively low, too; and so are delivery and installation charges.

A franchise for "packaged" air conditioners allows the specialty dealer to get into this promising business with a minimum of risk. He can finance sales through recognized channels, and he doesn't have to enroll in an engineering school before he can accept an order. Furthermore, he is accustomed to selling specialty appliances in the present price range of small air conditioning units. And he has a "sixth sense" which enables him to locate prospects.

In this connection, it might be pointed out that there is one particular market for which the small air conditioner is eminently satisfactory. That is the home or hotel bedroom. This room is enclosed on four sides; it seldom accommodates more than two people; and it is occupied at night when sun load is not a problem—although a mother and a child or two can escape the heat of the day there.

When he concentrates on the "bedroom market," the specialty dealer can go to his public with confidence that he has an item that will really "do the job" in nearly all cases. And there are enough bedrooms which need air conditioning in this country to comprise a sales "potential" which ought to interest many times the number of dealers now enrolled in this newest specialty-selling business.

There is one argument for bedroom air conditioning that has invariable appeal. It is this: "If you can get a good night's sleep in a properly air conditioned bedroom, you can stand the heat throughout the day; and so you'll do a better job and be a better man."

By utilizing this approach, the dealer changes what has been a rather complicated story into one that is exceedingly simple. The prospect isn't confused by technical details, and so the dealer can concentrate on selling.

It would not be fair to intimate, however, that the bedroom is the only spot in which the small unit conditioner will work satisfactorily. There are innumerable offices where it will provide comfort, and there are other rooms in private homes—particularly the new, small variety—where the low-priced unit will prove to be effective. These markets can be tapped as the dealer gains in experience and discretion.

This is one of a series of 26 advertisements dedicated to the progress of the entire air conditioning industry by

NEVINGER MFG. CO., INC.

GREENVILLE, ILLINOIS

Guide to Stories Which Ran In the News In '47

Editor's Note: The following is a listing of some of the stories and articles appearing in AIR CONDITIONING & REFRIGERATION NEWS during the year 1947, classified by general type of subject matter.

In no sense, however, can this list be construed as a complete index of material that has been published in the NEWS during the past 52 weeks. Rather, it is a compilation of the headlines or titles of the more significant articles to which readers may wish to have reference over a period of time. It should be particularly valuable to those who maintain complete files of the NEWS.

Those who desire back copies of the issues in which a particular article or articles are listed, may order them at the standard price of 20 cents per copy. However, we are out of stock on a number of issues and thus can't guarantee to fill all orders. See box on opposite page for list of available issues.

AIR CONDITIONING

How Carbon Panels Can Be Used to Improve "Ventilation" with Unit Air Conditioners—p. 8, Jan. 20.
Simple Dial Control Is Feature of "Airtopia" Reverse Cycle Unit—p. 31, Jan. 20.
Control of Odors Seen as Next Popular Step in Home Air Conditioning—p. 15, Jan. 27.
Wrong Type of Extinguisher Can Prove Fatal—p. 17, Feb. 3.
Humidity Alone Can't Control Odor Diffusion, Intensity, ASHVE Hears—p. 19, Feb. 17.
Odor Control Is Greater Problem Than CO_2 in Air Conditioning Ship's Berthing Spaces—p. 16, Feb. 24.
Air Purification—Experiments with Ultra-Violet Lamps, Glycol Vapors Electrostatic Dust Precipitators Seek to Curb Air-Borne Germs—p. 16, March 3.
One-Third of Nebraska Drug Stores Will Want Air Conditioning or Refrigeration Equipment—p. 13, March 17.
Engineers, International Labor Group Map World-Wide Exhaust Ventilation Code—p. 18, March 31.
Here's How Package Conditioner Installations Can Be "Camouflaged"—p. 21, April 7.
Heating Home Through Electrified Ceilings Given Test in Knoxville by U. S. Rubber Co.—p. 14, April 21.
Refrigeration, Air Conditioning Seen Aiding Industrial and Educational Growth of South—p. 15, April 28.
Temperatures Held Within 0.3° F. Required in Blood Fractionation Laboratory—pp. 24-25, May 5.
Experiments Show Radiant Cooling Doesn't Provide Comfort Conditions Where Temperatures and Humidity Are High—p. 6, May 12.
Use of Activated Carbon for Air Purification Lengthens Apple Life, Lessens Discoloration—p. 15, May 12.
Changes Suggested in Fire Protection Code for Conditioning Jobs—p. 8, May 26.
Research Proves Sun's Rays Will Heat a "Solar House"—p. 19, May 26.
How Air Conditioning Producers Spent Advertising Money in 1946—p. 4, June 16.
The Market for Air Conditioning In Commercial and Industrial Building (By J. F. Brinley)—p. 25, June 16.
Conditioning Fire Code Changes Are Delayed—p. 1, June 23.
Experiments Indicating Need to Revise Effective Temperature Concept—p. 18, June 30.
Factors in the Design of a Compact, Serviceable "Packaged" Conditioner—p. 22, July 14.
Gas Industry Readies $2 Million to Expand Year-Round Conditioning Market—p. 23, July 14.
St. Louis Commercial Air Condtioning Jobs Need City Okay Now—p. 14, July 21.
Westinghouse-Sponsored Test Shows That If Non-Oscillating Fan Faces Window, It Boosts the Cooling Effect By 75%—p. 15, July 21.
Optimum Office Air Conditioning Produces 75° at 50% R. H.—p. 7, July 28.
Simple Method of Figuring Outside Design Temperatures Developed by D-H Engineer—p. 14, Aug. 4.
Annual Usage of Air Conditioning Systems Varies Widely With Type of Installation, According to Estimates for Utilities—p. 19, Aug. 25.
ASRE Booklet Describes Use of Air Conditioning in Candy Manufacture—p. 28, Aug. 25.
Men's Store Figures Show Air Conditioning Market—p. 2, Sept. 1.
Diesel Engineer-Generator Supplies System's Power—p. 19, Sept. 1.
Cobb Notes Growing Trend to Year-Round Conditioning in South—p. 21, Sept. 1.
Large Hotels Plan to Spend $90,000,000 On Air Conditioning, Refrigeration by 1950—p. 7, Sept. 15.
Merchandising of Room Air Conditioners p. 8, Sept. 15.
Cost-Plus System for Air Duct Cleaning Jobs Precludes Customer Price Complaints—p. 8, Oct. 6.
Air Conditioning Advertising Aimed at Separate Professional, Commercial Groups Increases Sales—p. 7, Nov. 3.
What's Happened to the All-Year Gas Air Conditioning Systems?—p. 19, Dec. 1.
Hotels Told Air Recovery Device Will Slash Cost of Operating Air Conditioning Systems—p. 6, Dec. 8.

HEAT PUMPS

200-Ft. Well Supplies Heat from Earth for Homes in Muncie Reverse Cycle Unit—p. 30, Jan. 20.
What Factors Will Determine Future of the Reverse Cycle Heat Pumps?—p. 28, Jan. 20.
Heat Pump Costs Vary by Type of System, But Compare Favorably—p. 2, Feb. 10.
Heat Pump Energy Cost Put at $160 a Year for Indiana Test Unit—p. 18, April 21.
Heat Pump Production Will Boom in 1948, Utilities Are Told—p. 1, June 16.
Muncie Firm Plans to Market Heat Pump Through Air Conditioning Contractors—p. 23, July 14.
Heat Pump Manufacturers Face Difficulties in Getting Their Units on the Market—p. 21, Sept. 1.
Chance to Pyramid Electricity Sales Gives Utilities Big Stake in Future of Heat Pump—p. 28, Oct. 13.
After 11 Months' Operation, Heat Pump Wins Hearty Approval of Southern Home Owner—p. 8, Oct. 20.
Contractor Finds Labor Administration, Initial Cost Are Heat Pump Problems—p. 9, Oct. 20.
Hard Limestone Under Nashville Foils Experiments to Draw Heat from Earth—p. 9, Oct. 20.
Heat Pump Experiment Started in Conklin, N. Y.—p. 16, Nov. 10.

STATISTICS

Air Conditioning & Commercial Refrigeration Shipments—
First & Second Quarter—1946—p. 18, March 31.
Third Quarter—1946—p. 26, March 31.
Fourth Quarter—1946—pp. 26-27, May 19.
First Quarter—1947—p. 22, Sept. 8.
Second Quarter—1947—p. 24, Nov. 10.

KEY TO AIR CONDITIONING
By James J. LaSalvia

Ventilation—
Part I—p. 21, Aug. 4.
Part II—p. 24, Aug. 11.
Part III—pp. 22-23, Aug. 18.
Air Requirements—
Part I—p. 18, Aug. 25.
Part II—p. 18, Sept. 1.
Refrigeration—
Part I—p. 25, Sept. 8.
Part II—pp. 16-17, Sept. 15.
Part III—p. 20, Sept. 22.
Part IV—p. 28, Sept. 29.
Part V—p. 28, Oct. 6.
Part VI—p. 30, Oct. 13.
Part VII—p. 28, Oct. 20.
Part VIII—p. 28, Oct. 27.
Part IX—p. 26, Nov. 3.
Refrigeration Cycle—
Part I—p. 29, Nov. 10.
Part II—p. 23, Nov. 17.
Part III—p. 28, Nov. 24.
Part IV—p. 24, Dec. 1.
Part V—p. 24, Dec. 8.
Part VI—p. 36, Dec. 15.
Part VII—p. 19, Dec. 22.
Part VIII—p. 19, Dec. 29.

ASSOCIATIONS

AGA—Gas Industry Readies $2 Million to Expand Year-Round Conditioning Market—p. 23—July 14.
ASHVE—Use of Conditioning to Lengthen School Year in South Studied by Educators and ASHVE—p. 28, July 7.
ASHVE—ASHVE Group Reviews Data on Panel Heating Design at Cleveland Meeting—p. 24, July 21.
ASME—ASME Code Clauses On Pressure Vessels Could Hit Industry—p. 1, Dec. 1.
ASRE—Pre-Cooked Frozen Foods Require Control of Microbes with Refrigeration, ASRE Told—p. 9, Jan. 13.
ASRE—Hospital Staff Doctor Describes Equipment Needed for "Refrigeration in Medicine"—p. 13, March 31.
ASRE—Engineer Urges Simple Test Be Developed to Find Coefficients of Moist Insulation—p. 28, May 12.
ASRE—New Chart Helps Select Proper Sized Refrigerant Lines—p. 18, Oct. 20.
ASRE—Demand for Refrigeration, Air Conditioning Hits Peak as Life Grows More Complex—p. 12, Oct. 27.
ASRE—"Psychrometry Brochure" Published by ASRE Simplifies Calculations—p. 23, Nov. 3.
ASRE—Rough-Surfaced Tubes in Flooded Evaporator Increase Heat Transfer, ASRE Group Hears—p. 11, Dec. 1.
ASRE—Results of Wax Separation Tests, Story on Powdered Metal Bearings Told ASRE Group—p. 20, Dec. 8.
BANKERS—Bankers Told Refrigeration "Safe to Finance"; $3 Billion Appliance Volume Seen for 1947—p. 1, Feb. 3.
CHAMBER OF COMMERCE—Is Yardstick of "Man Hours" Needed to Cut Present Distribution Costs? (By Fenton B. Turck)—p. 10, May 26.
CREDIT MEN—Deterioration in Credit Conditions Indicated by Association Survey—p. 8, Oct. 13.
FARM & HOME FREEZER MFRS.—Freezers Shipped by Association Members Total 133,409, for 12 Months—p. 1, Nov. 17.
GAMA—Gas Appliance Mfrs. Tell How Excise Tax Hurts Public, Trade—p. 4, June 2.
INTERPROVINCIAL RSES—Functions & Operations of Automatic & Thermostatic Expansion Valves Analyzed—p. 16, April 7.
NARC—NARC Proposes 16-Point Code of Ethics Founded on Fair Dealing for Fair Profit—p. 28, Sept. 8.
NARC—Service Warranty Would Protect Contractor on Contingent Liabilities—p. 13, Nov. 17.
NARC—Neat, Efficient, & Safe Installation Is Major Aim of NARC for Contractors—p. 20, Dec. 15.
NEMA—NEMA Household Refrigerator Sales for 1946—p. 4, May 5.
NERA—50% More Salesmen May Be Required, NERA Survey of 50,000 Dealers Indicates—p. 18, Dec. 8.
NERA—Partial '47 Dealer Figures Show Gross Profit Was Down, Net Up in High-Volume Period—p. 14, Dec. 22.
NRDGA—Display, Selling Techniques Geared to Million—Unit Market Can Help Dept. Stores Get Larger Share of Range Sales—p. 7, Feb. 3.
RMA—10 Million Radio Sets Turned Out During First 7 Months of 1947—p. 25, Sept. 1.
REFRIGERATION CONTRACTORS ASSN. OF DETROIT—Most Effective Ways of Using Dryers Outlined—p. 22, July 7.
REFRIGERATION CONTRACTORS ASSN. OF LOS ANGELES—Contractors Association Lists DONT'S for Those Handling Refrigerant Drums—p. 24, Oct. 6.
REFRIGERATION CONTRACTORS ASSN. OF NORTHERN CALIFORNIA—California Contractors Propose Model Ordinances for City Licensing of Mechanics, Contractors—p. 23, March 3.
REMA—Will Inventories Become a Major Problem to Refrigeration Parts and Equipment Wholesalers?—p. 8, March 31.
REMA—REMA'S policy on Several Matters Is Outlined in Report—p. 5, April 28.
REMA—Frozen Food Market to Absorb 500,000 Low-Temp Units in '47, REMA Survey Shows—p. 16, June 23.
REMA—Water Boosts Efficiency, Harvard Test Indicates—p. 15, Sept. 22.
REWA—REWA Obtains Interpretation on Percentages of Tin Authorized for Use in Soldering—p. 20, June 23.
REFRIGERATION RESEARCH FOUNDATION—Research Is Showing Food Field Benefits of Protective Refrigeration for Perishables—p. 8, Feb. 10.
RSES—What Causes Those Solids Which Play Havoc With a System? Dr. Walker Has Suggestions—p. 22, June 23.
WASHER & IRONER MFRS. — 1946 Washer Sales Establish Record—p. 15, June 23.

COMMERCIAL REFRIGERATION

P-I-E Keeps Trucking Cargoe at Low Temperature With Separate Gas-Driven Unit, Cold Air "Bath"—p. 16, April 28.
Dayton Refrigeration Contractors, Service Engineers Plan Code Requiring Licensing, Permits, Inspections—p. 2, May 5.
Tests Show Prepackaged Meats Will Last 1-7 Days in Open-Type Self-Service Cases—p. 8, May 5.
Hospital Illustrates All-Too-Common Use of Overloaded, Obsolete Refrigeration System—pp. 18-20, June 9.
Growers Can Meet Competition, Cut Costs By Packaging Vegetables at Point of Shipment—p. 14, June 30.
Marketing of Dried Fruits in Display Cases Will Boost Yearly Sales 30%, Research Group Claims—p. 9, July 7.
Most Effective Ways of Using Dryers Outlined for Contractors by Carroll—p. 22, July 7.
Sub-Zero Chilling of Die Steels Proves Value in Series of Tests (by G. M. Butler) pp. 22-23, July 28.
Prepackaged Refrigerated Vegetables Keep 2 to 7 Times Longer Than Others in Test—p. 10, Sept. 8.
Light-Air, Not Drying, Causes Meat to Fade—p. 17, Sept. 15.
Truck Trailer Association Preparing for Standard Recording of "Reefer" Condi-
Refrigerated Blood Bank, Specially Engitions—p. 13, Sept. 29.
neered for the Job, Saves Lives and Staff's Time in a Kansas City Hospital—p. 25, Oct. 6.
Open, Self-Serve Refrigerated Display Cases Prove Valuable Sales Volume Boosters—p. 14, Oct. 20.
Does Heating Up of Drier Indicate Removal of Moisture?—p. 20, Oct. 27.
Losses on Fruits & Vegetables Lower in Stores Using Refrigeration, Government Finds—p. 22, Oct. 27.
Conflicting Government Regulations Harass Truck-Trailer Refrigeration—p. 22, Nov. 3.
Refrigeration Aids in Treating Ailments Ranging from Warts to Cancer, Doctor Says—p. 11, Nov. 24.
Neat, Efficient & Safe Installations Is Major Aim of NARC for Contractors—p. 20, Dec. 15.
The "Right" and "Wrong" Way of Applying Ultra-Violet Lamps in Refrigerated Areas—p. 40, Dec. 15.
Pattern of Commercial Refrigeration Sales Is Revealed in Chicago Survey—p. 22, Dec. 15.

STATISTICS

Air Conditioning & Commercial Refrigeration Shipments—
First Half—1946—p. 22, Jan. 20.
Third Quarter—1946—p. 26—March 31.
Fourth Quarter—1946—pp. 26-27, May 19.

EDITORIALS

On market analysis—Jan. 27, Feb. 3, Feb. 10, Feb. 17, March 17, April 7, April 14, May 26, July 28, July 14, Aug. 11, Sept. 8, Oct. 27.
On specialty selling—Jan. 13, Feb. 24, March 24, May 12, June 30, July 7, July 21, Sept. 29.
On home freezer—March 31, Aug. 4, Sept. 15, Nov. 3, Nov. 24, Dec. 22.
On free enterprise—Jan. 6, March 3, March 10, April 21, April 28, May 5, May 19, June 2, June 9, June 16, June 23, Aug. 18, Aug. 25, Sept. 1, Sept. 22, Oct. 6, Oct. 13, Oct. 20, Nov. 10, Nov. 17, Dec. 1, Dec. 8, Dec. 15, Dec. 29.

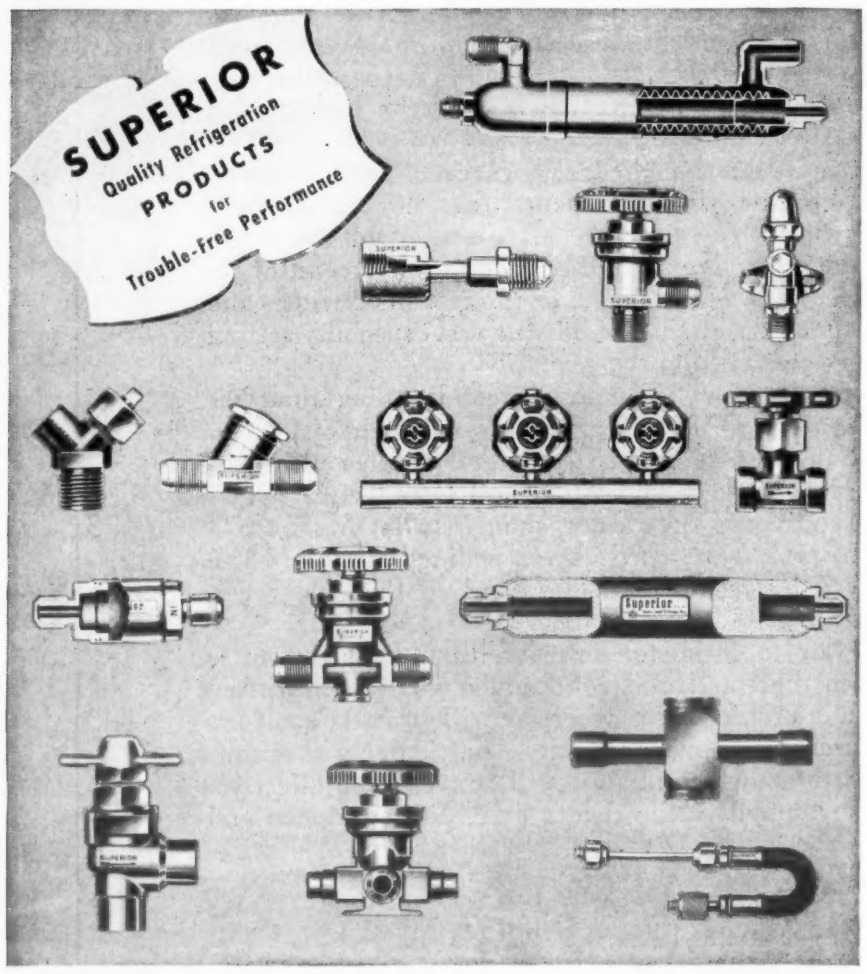
INSIDE DOPE

Decalogue of Private Enterprise—Jan. 13.
No Recession for Us—Jan. 27.
Taxes and What They Can Do to People—Feb. 17.
Decentralization—May 5.
Care and Feeding of Distributors—April 28.
Wisdom from a Wise Man—June 9.
Boston Gets the Facts—June 23.
Conversation in the Night—June 30.
Where Do We Go From Here?—Aug. 11.
How We Got Where We Are—Aug. 18.
Definition of Free Enterprise—Aug. 25.
Give and You'll Get—Oct. 13.
God Takes a Hand—Oct. 20.
How Men Outsmart Themselves—Oct. 27.
Advice for the Gamblers—Nov. 3.
How Much Can We Believe—Nov. 10.
Why Russia Is Expanding—Nov. 17.
Law Is a Protector—Nov. 24.
Poor Old England—Dec. 1.
Teamwork Scores Touchdowns—Dec. 8.
Where, Oh Where Has My Little Dog Gone?—Dec. 22.

FEDERAL AGENCIES

CPA—Ease Sales Restriction on Items Earmarked for Federal Housing—p. 16, Jan. 6.
CPA—Inventory Curbs on Durables Transferred—p. 1, Feb. 17.
CPA—Status of CPA Controls Today—p. 13, April 14.
DEPT. OF COMMERCE—Govt. Survey Outlines Factors Contributing to Profitable Refrigeration Business Operation—p. 16, March 17.
DEPT. OF COMMERCE—Various Agencies for Management Counsel Offer Dealers "Outside" Aid In Planning Operations—p. 12, Dec. 22.
DEPT. OF LABOR—Fewer Exemptions for Stores Asked by Wage-Hour Head—p. 1, March 3.
DEPT. OF LABOR—Does Wage-Hr. Act Cover Store Warehouse?—p. 1, March 10.
DEPT. OF LABOR—Wage-Hour Div. Weighs Changes In Law Dec. 2—p. 1, Nov. 10.
FHA—Dealer Must Clear Trade-In Under FHA Lien—p. 1, May 19.
FHA—FHA Accepts Reynolds Recommendations for Aluminum In Air Ducts—p. 12, Nov. 10.
FRB—Senate Approves Bill Keeping But Revising Credit Regulations—p. 1, July 21.
FRB—End of Reg. W Gives Dealer Responsibility of Choosing Wise Installment Selling Plan—p. 14, Oct. 27.
FTC—Trade-Ins Nullify Effect of Fair Trade Price—p. 6, June 23.
FTC—Philco Fights FTC Attempts To Stop Salesmen Awards—p. 1, Nov. 10.
INTERNAL REVENUE—Excise Dropped From Some Air Conditioners—p. 1, June 30.
NATIONAL BUREAU OF STANDARDS—Water Cooler Standards Are Effective Feb. 1—p. 5, Jan. 20.
OFFICE OF HOUSING EXPEDITER—How New Housing Act Regulates Cooling Units In Amusement Halls—p. 17, July 14.
OFFICE OF HOUSING EXPEDITER—CLR Amendments Explain Restrictions Covering Recreational Installations—p. 1, Sept. 15.
RFC—Govt. Metals Subsidies Revived Until June, '49—p. 29, Aug. 4.

(Continued on next page)



Designed and Engineered for Maximum Performance...

In all refrigeration and air-conditioning systems, the SUPERIOR line includes the famous Diaphragm Packless Line valves; globe, charging, purging or drain valves; hand expansion valves; pressure cup (wing cap) globe valves; packed line, angle, compressor and cylinder valves; check valves; liquid indicators and sight glasses; quick couplers; gauge manifolds; economizers (heat-exchangers) and manifolds; dehydrators and filters; rapid-chargers (refrigerant transfer systems); charging hose; and SAE flare fittings.

If you haven't a copy of SUPERIOR Catalog R-2, request one today

148

Superior Valve and Fittings Co.
1509 WEST LIBERTY AVE. PITTSBURGH 26, PENNA.
OFFICES IN PRINCIPAL CITIES · STOCKS CHICAGO (6) · LOS ANGELES (15) · JOBBERS EVERYWHERE

YOU'VE GOT OUR NUMBER!

(BOOTHS 310-312)
AT THE
Cleveland
ALL-INDUSTRY SHOW

There'll be lots to see at this year's show, but you won't want to miss the Ranco exhibit! Whether you want to see and discuss the latest developments in refrigeration controls, or just relax for a bit and discuss things in general, we'll give you a hearty welcome!

Remember our booth numbers: 310-312.

JANUARY 26-29, 1948

Ranco Inc.
COLUMBUS 1, OHIO
World's Largest Manufacturers of REFRIGERATION CONTROLS

Guide to 1947 News Stories--

(Concluded from preceding page)

FROZEN FOODS, HOME AND FARM FREEZERS

Precooked Frozen Foods Require Control of Microbes with Refrigeration, ASRE Told—p. 9, Jan. 13.
Freezer Graphs Give Trade Comparative Data on Prices, Condensing Unit Sizes—p. 11, Jan. 13.
What To Do and What Not To Do In the Cooking of Frozen Foods (by M. M. Boggs)—p. 12, April 28.
Survey Shows Big Gains In Use of Frozen Foods—p. 23, May 26.
Magazine Advertising Expenditures on Home Freezers During 1946—p. 25, June 2.
Frozen Food Market To Absorb 500,000 Low-Temp Units In '47, REMA Survey Shows—p. 16, June 23.
The Home Freezer—Factors In Its Size, Design, and Operation (By Prof. John E. Nicholas)
Part 1—p. 26, Aug. 18.
Part II—p. 22, Aug. 25.
How To Use Home Freezers (By T. J. McIntire)
Part I—p. 18, Sept. 22.
Part II—p. 14, Sept. 29.
Part III—p. 12, Oct. 6.
Part IV—p. 21, Oct. 13.
Home Freezers, Locker Plants Complement Each Other, Radio Roundtable Emphasizes—p. 24, Nov. 3.
Food Expert Reports Findings of Studies on Pre-Treatment, Wrapping of Frozen Meats—p. 9, Nov. 17.
Researchists Recommend Types of Fruits, Vegetables Most Suitable for Freezing—p. 24, Nov. 24.
Frozen Foods Need 10,000 Refrigerated Trucks, Trailers Now—p. 28, Dec. 8.

STATISTICS

Farm & Home Freezer Shipments
First Half of 1946—p. 1, Jan. 27.
Third Quarter—1946—p. 7, Feb. 17.
Fourth Quarter—1946—p. 8, June 9.
Farm & Home Freezer Manufacturers Association Reports On Freezers Shipped Oct. 1, 1946—Sept. 30, 1947—p. 4, Nov. 17.
Government Estimates on Freezer Shipments—p. 24, Jan. 27.

HOUSEHOLD REFRIGERATORS

Dealer Must Clear Trade-In Under FHA Lien—p. 1, May 19.
Kelvinator Topped 1946 Magazine Advertising Lists—p. 1, June 2.
How Money Was Spent on Magazine Advertising Of Household Electric Refrigerators in 1946—p. 28, June 2.
What It Costs To Operate Appliances—p. 15, Nov. 10.
Consumer Today Spends Smaller Percentage Of Income On Appliances Than He Did In '41—p. 10, Nov. 17.

STATISTICS

Estimates 1946 Refrigerator Sales Hit 2,100,000—p. 1, Jan. 27.
NEMA Refrigerator Sales for September And the First Nine Months of 1947—p. 25, Dec. 1.

HOUSEHOLD APPLIANCES (NON-REFRIGERATED)

St. Louis Dealer Mortality—p. 6, Jan. 6.
Electronic Ranges Might Change Methods of Cooking, Especially for Frozen Foods—p. 18, March 10.
Big Gain In Popularity of Automatic Washers Noted by "Milwaukee Journal" Poll—p. 14, June 16.
4 In 10 Greater Boston Appliance Salesmen Driving Customers Away, Survey Shows—pp. 6 & 7, June 30.
Counsel Explains Proposed Trade-In Law, Sees No Reason for Current Dealer "Hysteria"—p. 14, July 14.
Supermarkets to Retain Appliances, Survey Hints—p. 14, July 14.
14 Million Gas Appliances Will Be Sold From '47 to '49, Gas Utilities Estimate—p. 14, Sept. 8.
Appliance Men Present Story to Price Investigating Group—p. 1, Oct. 6.
Unfranchised Dealers In the Carolinas With Acres of Appliances To Sell Are Legitimate, Say Their Competitors—p. 1, Oct. 13.
What's Being Done About "Gray Markets?"
1. Manufacturers Attempt to Trace Sources by Serial Number Check—p. 1, Oct. 27.
2. "Policing" of Deliveries, Apt. House Sales, Tried In N. Y.—p. 1, Oct. 27.
Consumer Today Spends Smaller Percentage of Income On Appliances Than He Did In '41—p. 10, Nov. 17.
Need for Boost In Dealer-Distributor Profit Margins Seen In Buyer's Market—p. 21, Nov. 17.
Ohio Dealer Puts Salesmen on 8% Commission and Expects To Do $250,000 Business This Year—p. 12, Nov. 24.

STATISTICS

Washer Sales Jump 112% Over '46 In 6 Months—p. 4, Aug. 4.
Half-Year Vacuum Sales Equal 80% of '46 Total—p. 20, Aug. 4.
6-Month Wholesale Dollar Volume for Electrical Goods Doubles 1946 Rate—p. 7, Aug. 18.

INDUSTRIAL (PROCESS) REFRIGERATION

Temperatures Held Within 0.3° F. Required in Blood Fractionation Laboratory—pp. 24-25, May 5.
5-Hp. Built-up Machine Holds Anodizing Tanks at 50° for Color Work—p. 28, Aug. 11.

LEGAL NEWS

Wage-Hr. Chief Tells Rulings on Contractors—p. 1, Jan. 20.
Condensing Unit Standard to be Effective Feb. 20—p. 7, Feb. 10.
"Unjust" Returns Violate Law, Patman Says—p. 1, April 28.
Excise Tax Data (Appendix C)—p. 4, June 9.
Business Guide Outlines 12-Points Vital to Drafting of Mfrs.' Agent Contract—p. 13, July 14.
Good, Bad Points of New Trade Mark Law Cited—p. 29, July 21.
Fair Trade Law in Florida is Upheld in Court Case by Federal District Judge—p. 2, Aug. 4.
Standard for Condensing Units Withdrawn at ACRMA-REMA Request—p. 19, Sept. 15.
California Law on Dairies' Equipment Selling In Effect—p. 1, Sept. 29.
Conflicting Government Regulations Harass Truck-Trailer Refrigeration—p. 22, Nov. 3.
Wage-Hour Div. Weighs Changes In Law Dec. 2—p. 1, Nov. 10.
"Legal Juggling" Brought Retailers Under Wage-Hr. Act, House Group Told—p. 3, Nov. 17.
Gov't Official Tells "Portal-to-Portal" Effect on Repairmen—p. 1, Dec. 1.

LOCKER PLANTS

Labor-Saving Equipment Can Lower Costs of Frozen Food Processing, Tressler Says—p. 10, Feb. 3.
FCA Finds Lockers Serve 13 Million—p. 1, March 31.
FCA Reports on Nation's Locker Plants—p. 18, June 2.
What Is the Profit Picture In the Locker Field?—p. 1, Sept. 22.
Selling a Locker Plant—
Part I—p. 10, Sept. 22.
Part II—p. 22, Sept. 29.
Part III—p. 22, Oct. 6.
Part IV—p. 26, Oct. 13.
Part V—p. 22, Oct. 20.
"Fortune" Looks at Locker Plants—p. 24, Sept. 22.
New York's 214 Locker Plants Draw Most Patrons from Farms, Survey Shows—p. 7, Dec. 8.
Some Ways To Improve the Construction, Design, and Operation of Locker Plants (By Louise Gronnert)—p. 18, Dec. 22.

MISCELLANEOUS TEXTS

"Musts" In Major Store Retailing of Refrigerators Include All-Out Effort on the "Trade-In" Type Sale (By Dan Packard)—p. 16, Jan. 27.
What A Small Chain Seeks Equipment-Wise (By Emil Brisacher)—p. 8, April 7.
Education Needed or Industry May Flop (By Watson Rogers)—p. 9, April 7.
Why the Electrical Appliance Industry's Chances for the Farm Market Are Endangered, and What Can Be Done—p. 2, April 14.
Banker Outlines Program for Sounder Operations (By Frank E. Jerome)—p. 14, April 14.
Selling Job Needed to Promote Frozen Food Use (By Burton L. Prince)—p. 15, April 14.
What to Do and What Not to Do In the Cooking of Frozen Foods (By Mildred M. Boggs)—p. 12, April 28.
The Market for Air Conditioning In Commercial & Industrial Buildings (By J. F. Brinley)—p. 25, June 16.
Customer Comfort Is Major Factor to Consider (By R. L. Paulson)—p. 10, Aug. 4.
City of 70,000 Adopts Detailed Ordinance to Regulate Refrigeration Mechanics—p. 18, Aug. 11.
Important Sections of California Law—p. 4, Aug. 18.
Cost-Plus System for Air Duct Cleaning Jobs Precludes Customer Price Complaints (By F. D. Crew)—p. 8, Oct. 6.
Open, Self-Serve Refrigerated Display Cases Prove Valuable Sales Volume Boosters (By John F. Staples)—p. 14, Oct. 20.
Demand for Refrigeration, Air Conditioning Hits Peak as Life Grows More Complex (By William B. Henderson)—p. 12, Oct. 27.
What's Happened To the All-Year Gas Air Conditioning Systems? (By Frank C. Smith)—p. 19, Dec. 1.

For those desiring to purchase back copies, the NEWS has a limited supply of the following issues on hand: Jan. 20, 27; Feb. 17, 24; March 3, 10; April 7, 21, 28; May 5, 19, 26; June 2, 9, 16, 23; July 14; Aug. 4, 11, 25; Sept. 8, 15, 22, 29; Oct. 6, 13, 27; Nov. 10, 17, 24; Dec. 1, 8, 15, 22, 29.

SERVICING

Solving the Duct-Cleaning Problem—p. 21, Jan. 20.
Questions on Service Answered by Experts—p. 23, Jan. 27.
New "Freons" Designed for Low Temp Jobs: Tips Given on General Use of Refrigerants—p. 5, March 31.
Why Oil In A Refrigerating System Can Cause Damage Explained by Kellie—p. 27, April 7.
Cleaning Air Ducts Keeps New Firm Busy—p. 22, April 14.
Willis Refrigeration Co. Develops Special Processes and Tools To Recondition Hermetics—p. 20, May 26.
Steps in Reconditioning Hermetic Units Outlined by California Rebuilding Firm—p. 22, June 2.
Coil Cleaning Specialist on Tour of Taverns Brings Lucrative Service Business to Contractor—p. 2, Sept. 8.
The Lubrication of Refrigeration Systems—
Part I—p. 26, Sept. 8.
Part II—p. 22, Sept. 15.
Contractors Association Lists DONT'S For Those Handling Refrigerant Drums—p. 24, Oct. 6.
Quick Test of Expansion Valves, Controls Improves Service Operations—
Part I—p. 20, Oct. 13.
Part II—p. 20, Oct. 20.

SERVICING TRUCK REFRIGERATION UNITS

Servicing the Trail-Aire Unit. Use of Oil Separators—p. 18, Jan. 6.
Cooling Cycle—p. 16, Jan. 13.
Heating Cycle—p. 32, Jan. 20.
Installing Gauges—p. 14, Jan. 27.
Pumping Down Evaporator—p. 14, Feb. 3.
Replacing Heat Exchanger—p. 16, Feb. 10.
Pumping Down Condenser—p. 18, Feb. 17.
Adjusting Expansion Valve—p. 24, Feb. 24.
Pumping Down Receiver—p. 17, March 3.
Pumping Down Compressor — p. 21, March 10.
Replacing Shaft Seal—pp. 22-23, March 17.
Drying the System—pp. 14-15, March 24.
Truck Plate Systems—p. 24, March 31.
Design of Plates—p. 24, April 7.
Typical Truck System—p. 28, April 14.
Installing Plates—p. 23, April 21.
Where to Mount Condensing Units—p. 24, April 28.
Make-and-Break Valves for Remote Systems—p. 28, May 5.
Safety Switches—p. 25, May 12.
Moisture In System—p. 24, May 19.
Starting a New System—p. 22, May 26.
Low Pressure Control—p. 24, June 2.
General Operating Instructions—p. 32, June 16.
Service Complaints—
Part I—p. 24, June 23.
Part II—p. 28, June 30.
Truck Plate Systems Using Ammonia—p. 28, July 14.
Typical Service Calls—
Part I—p. 28, July 21.
Part II—p. 24, July 28.

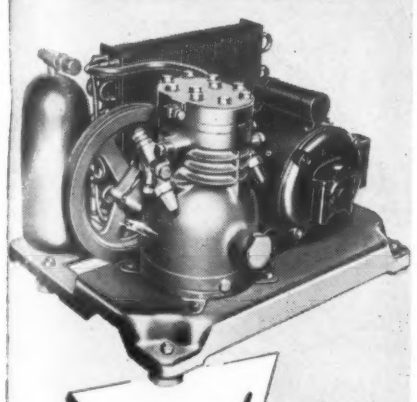
REFRIGERATION PROBLEMS AND THEIR SOLUTION

By P. B. Reed

Electric Currents (cont. from 1946)—
Part III—p. 23, Jan. 6.
Part IV—p. 15, Jan. 13.
Part V—p. 33, Jan. 20.
Part VI—p. 20, Jan. 27.
Part VII—p. 23, Feb. 3.
Watts & Power Factor—p. 27, Feb. 10.
Single-Phase and 3-Phase Systems—
Part I—p. 20, Feb. 17.
Part II—p. 27, Feb. 24.
Methods of Starting Polyphase and Single-Phase Motors—
Part I—p. 20, March 3.
Part II—p. 24, March 10.
Safety In the Field of Service Work—p. 21, March 17.
Mystery Story—
Part I—p. 20, March 24.
Part II—pp. 22-23, March 31.
Properties of Water Important In Cooling—pp. 24-25, April 14.
Temperature Difference—
Part I—p. 17, April 21.
Part II—p. 20, April 28.
Why the Heat Pump?—pp. 26-27, May 12.
Heating or Cooling by the Heat Pump—pp. 26-27, May 26.
The Refrigerated Railway Car—
Part I—p. 21—June 2.
Part II—p. 21, June 9.
Part III—p. 29, June 16.
Part IV—p. 25, June 23.
Part V—p. 24, June 30.
Making Money in the Service Business—
Part I—pp. 16-17, July 7.
Part II—pp. 24-25, July 14.
Part III—p. 25, July 21.
Part IV—p. 21, July 28.
Part V—pp. 26-27, Aug. 4.
Part VI—pp. 20-21, Aug. 11.
Part VII—pp. 24-25, Aug. 18.
Part VIII—p. 21, Aug. 25.
Care and Recording of Service Supplies—
Part I—p. 20, Sept. 1.
Part II—p. 31, Sept. 8.
Part III—p. 21, Sept. 15.
Which Type of a Service Business?—
Part I—p. 23, Sept. 22.
Part II—p. 21, Sept. 29.
Avoiding Trouble from Leaks and Moisture—
Part I—p. 21, Oct. 6.
Part II—p. 25, Oct. 13.
The Oil Cycle—
Part I—pp. 26-27, Oct. 20.
Part II—pp. 24-25, Oct. 27.
Part III—p. 28, Nov. 3.
Part IV—pp. 30-31, Nov. 10.
Part V—pp. 24-25, Nov. 17.
Part VI—pp. 26-27, Nov. 24.
Part VII—p. 22, Dec. 1.
Part VIII—pp. 22-23, Dec. 8.
Part IX—pp. 42-43, Dec. 15.
Part X—p. 17, Dec. 22.
Part XI—p. 16, Dec. 29.

WORLD TRADE NEWS

'45-'46 Refrigerator, Appliance Export Totals—p. 35, Jan. 20.
Export Volume Seen Passing $14 Billion by Gifford "If We Organize Properly"—p. 27, Feb. 17.
British Producers Look to Heat Pump Method of Heating as Coal Becomes Scarce, Costly—p. 21, Feb. 24.
Analyze Refrigerator Markets In 9 Latin American Countries—p. 28, March 31.
DeLind Finds Demand for U. S. Products In Unoccupied Europe "At Greatest Peak"—p. 28, March 31.
"Missing Boat" In S. A., Business Men Warned; Delivery, Prices Cited—p. 22, April 28.
Latin American Export Picture—
Report on Mexico (By P. H. Berritt)—p. 31, May 5.
Report on Panama (By P. H. Berritt)—p. 31, July 21.
Report on Columbia (By P. H. Berritt)—p. 25, Aug. 11.
Report on Venezuela (By P. H. Berritt)—p. 20, Sept. 8.
Report on Cuba (By H. D. Friedman)—p. 31, Oct. 13.
57,475 Boxes Made In Canada In 1946—p. 20, June 16.
Canadian Production Data—p. 31, July 21.
See '47 Appliance Exports at $95 Million; Import Bans To Cut Refrigerator Shipments—p. 23, Sept. 1.
U. S. Appliance Ban Invoked In Australia—p. 4, Sept. 15.



Lehigh BLU-COLD COMMERCIAL REFRIGERATION

Package Units
Heavy Duty Air and Water Cooled Units
Lehigh Mfg. Co.
Plant: Lancaster, Pa.
Export Department, 160 Broadway New York, N. Y.

FOR THE DEALER WHO RESPECTS QUALITY

IN BUILDING OUR CASES WE INSIST ON UNUSUALLY HIGH STANDARDS OF QUALITY . . . WE HAVE NO DIFFICULTY IN MAINTAINING THIS QUALITY BECAUSE WE COMBINE IN ONE MODERN PLANT THESE MANUFACTURING FACILITIES.

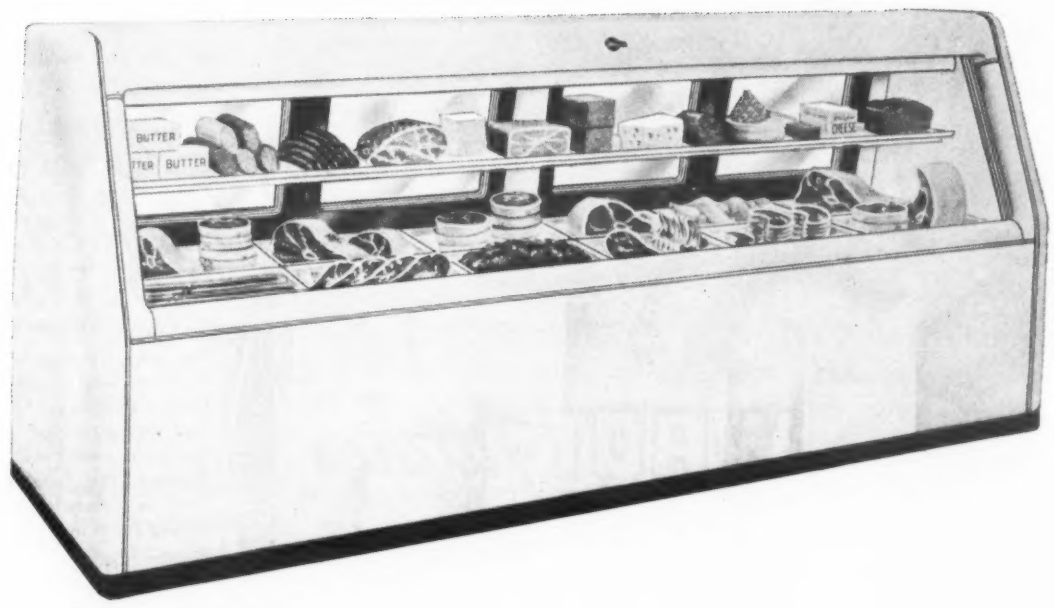
PORCELAIN ENAMELING PLANT to Produce the finest quality of Vitreous Enamel Ware

COIL MANUFACTURING DEPT. making the best in all copper and aluminum coils designed specifically to fit Bally Cases

HARDWARE DEPARTMENT Where we make cast brass hardware with stainless steel pins, rollers, etc.

MACHINE SHOP Manned by skilled tool makers to build our own dies, jigs, etc.

IT IS THIS "UNDER-ONE-ROOF" CONTROL OF DESIGN AND QUALITY OF ALL IMPORTANT CASE PARTS THAT EXPLAINS "BALLY SUPERIORITY."



DEALER INQUIRIES DESIRED

Especially in the following Cities

Los Angeles, Cal. — Denver, Colo.
Toledo, Ohio — Dallas, Texas
Springfield, Ill. — Omaha, Nebraska
Des Moines, Iowa — Portland, Oregon
Kansas City, Mo. — Spokane, Wash.
Utica, N. Y. — Seattle, Wash.

BALLY

Bally Case & Cooler Co.
MAIN OFFICE & FACTORY
Bally · Pennsylvania.

Refrigeration Problems

And Their Solution

By P. B. Reed

For Service and Installation Engineers

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

The Oil Cycle (11)

HIGH-SIDE OIL SEPARATOR

If, therefore, we put an oil separator in the line from the compressor discharge to the condenser we will be in an excellent position to remove the oil from the gas.

Essentially, but with one exception, this oil separator is made about the same as the one we used in the suction line. It consists of a tank with baffles, steelwool, or other material on which the oil impinges or strikes, and stays. From them the oil drips down to the bottom of the tank the same as in the case of the suction oil separator.

But now for the exception: This separator is in the high pressure part of the system (For that reason it is called a "high-side oil separator.") If we simply run an oil line from the bottom of the tank of the separator back to the compressor crankcase, the high pressure in the separator would push the oil back into the crankcase easily enough, but it would not stop when the oil was all pushed out, and would simply push the oil line and equalize the pressures in the systems.

Then the compressor would simply be "pumping against itself" that is merely circulating vapor from its discharge to its suction.

We want the high pressure to push the oil back into the compressor or crankcase but to stop just before the oil is all pushed out, so that there is still an oil seal.

This is obviously a job for a float valve. So we put into the bottom of the separator tank, a float that works like a high-side refrigerant float except that it handles oil instead of refrigerant.

When enough oil gathers in the bottom of the tank, the float is raised enough to lift the needle from its seat, the high pressure in the separator pushes oil into the crankcase against crankcase pressure, which is much lower than the discharge pressure in the separator.

As soon as enough oil is pushed into the crankcase to lower the float, the needle closes and the oil flow stops until more oil collects and needs to be pushed over.

There is no need for the check-valve, for the float needle keeps the line closed. Anyway, crankcase pressure, being on the low-pressure side of the system, cannot flow back into the separator. For the same reason the bleeder is not used.

Actually there is not a great deal of difference between the high-side and low-side oil separators. Both separate the oil from refrigerant vapor and return it to the crankcase of the compressor.

The high-side oil separator does require a float valve so as to block off the high pressure from the condenser, and keep it from flowing back into the low pressure side of the system by way of the compressor crankcase.

PURPOSES DIFFERENT; DESIGN SIMILAR

But the main difference is in the ultimate purpose. The main purpose of the low-side or suction oil separator is to recover the oil for the compressor and to keep slugs of oil from damaging the compressor.

The purpose of the high-side oil separator is primarily to purify the refrigerant of the oil in it, so that the refrigerant will not be affected in its action in the evaporator and so the evaporator can operate at its best efficiency and capacity.

Just how "pure" (free of oil) can we expect to get the methyl chloride? If we remember that it depends on the pressure and temperature, we can again go back to our chart and find the answers.

OIL-REFRIGERANT MIXTURES IN SEPARATOR

Just before the compressor starts at 26 p.s.i.g. suction pressure, the condensing pressure (in a 60° room) is standing at approximately 47 p.s.i.g. (unless there is some air in the system).

From our chart (on the 60° curve) we find then that the oil-refrigerant mixture in the bottom of the tank of the high-side oil separator is 47% (47 is merely a coincidence) refrigerant and 53% oil, or only about one-half oil.

At this same time the "oil" in the compressor is 16% methyl chloride and 84% oil, for, although the temperature is the same, 60°, the crankcase pressure is much lower, 26 instead of 47 p.s.i.g., so the amount of methyl dissolved into the oil is less in the crankcase than in the oil separator.

So at the start, the "oil" that the high-side oil separator sends back to the compressor crankcase has much more refrigerant in it than the "oil" that is in the crankcase; three times as much, in fact.

As the compressor continues to operate, the discharge gas heats up until very soon it is 220° and if the high-side oil separator is properly designed, and located near the compressor, we can reasonably assume that the oil-refrigerant mixture in the bottom of the separator is also about 220°.

By this time, the discharge pressure has built up to 86 p.s.i.g., which corresponds to 90°, so the pressure in the oil separator is 86 p.s.i.g.

EFFECT OF HIGH PRESSURE

The increase in pressure tends to increase the per cent of oil in the mixture but this is more than overcome by the higher temperature of the mixture tending to reduce the percentage of oil.

On the 220° curve we find that at 86 p.s.i.g., the "oil" will be 8% methyl chloride and 92% oil. This is the composition of the "oil" that the high-side oil separator sends back to the crankcase when the discharge pressure gets up to 86° and the hot discharge gas (and presumably the oil-refrigerant in the separator also) has become 220°.

Actually there will be some heat loss from the separator, so the oil-refrigerant mixture temperature will be somewhat less than 220° which will result in it being a bit more than 8% oil.

At this same time, what is the composition of the oil-refrigerant mixture in the crankcase?

By this time the suction pressure is down to 13 p.s.i.g. and the crankcase pressure has been bled down to equal suction pressure. Also by this time, the oil in the crankcase has heated up, mostly from the heat of compression of the methyl chloride, which in turn heats the whole compressor.

On the 120° curve at 13 p.s.i.g. we find the oil-refrigerant mixture to be 2% methyl chloride and 98% oil. So the oil in the crankcase is again more nearly pure oil without refrigerant in it than the oil being returned to it by the high-side oil separator whose mixture is 8% methyl chloride and 92% oil.

In fact there is about four times as much methyl in the "oil" from the high-side oil separator as there is in the "oil" in the crankcase, after the compressor has settled down to normal operating conditions, a short time after the compressor starts.

Obviously, we want the oil in the compressor to be as free of refrigerant as possible. The more refrigerant there is in it, the lower is the viscosity and lubricating value of the oil.

Also, the more refrigerant that we have in the compressor oil the more likelihood there will be of oil-slugging, and the more care that we have to exercise in order to prevent oil-slugging.

(To Be Continued)

Fig. 12—High-Side Oil Separator

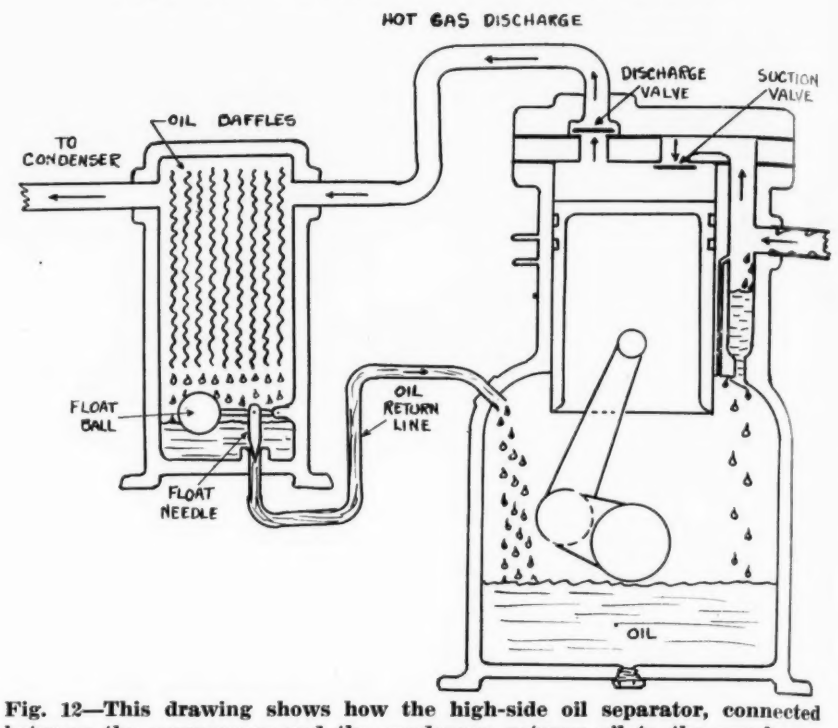
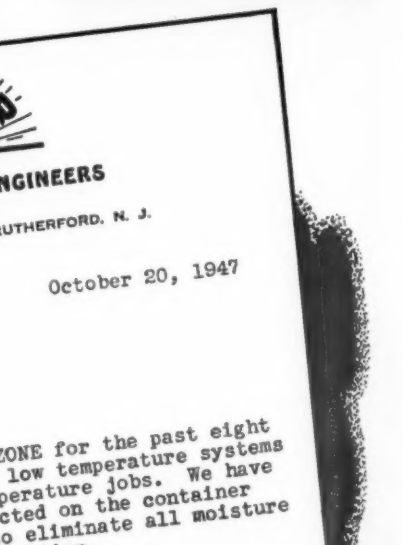


Fig. 12—This drawing shows how the high-side oil separator, connected between the compressor and the condenser, returns oil to the crankcase.

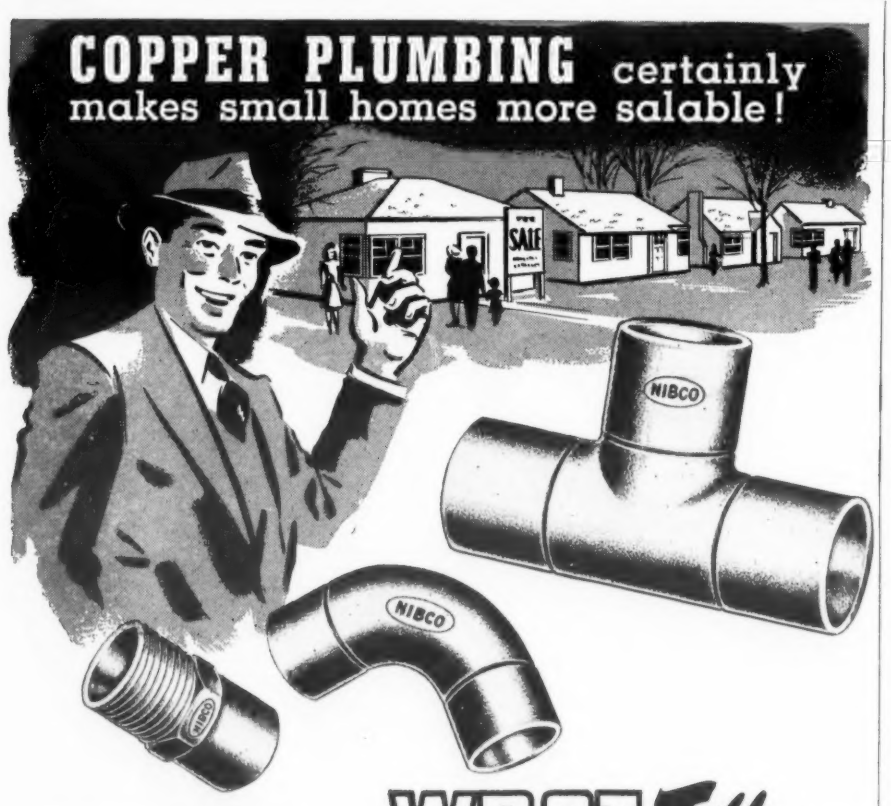


Get Genuine Wagner Motor Repair Parts

When repairing a Wagner Motor, be sure to use genuine Wagner motor parts. Get them now from your Wagner distributor. Name on request.

WRITE FOR MU-40 CATALOG . . . M47-25

Wagner Electric Corporation
ESTABLISHED 1891
6471 Plymouth Avenue, St. Louis 14, Mo., U.S.A.
ELECTRICAL AND AUTOMOTIVE PRODUCTS



BETTER MORE PERMANENT COPPER PLUMBING
Costs Less in the Long Run

- ★ There is no maintenance expense. Soldered joints are strong, permanent, never rust.
- ★ NIBCO Wrot Fittings are perfectly formed, always "round and square." Alignment is easy.
- ★ Accurately maintained tolerances simplify installation.
- ★ Minimum weight and space requirements.

WROT Fittings

RECOMMEND copper plumbing! It makes homes more salable . . . gives longer life to vital plumbing lines with no maintenance cost. Installation is simpler and quicker. Each copper job sells another one for you.

Owners talk about it to their friends. Your reputation as a skilled craftsman, gained quickly through a few copper installations, builds your business on a higher and more profitable plane. Insist on NIBCO Wrot Fittings and Copper Tube Valves for perfect operation. Both are available for prompt shipment.

NORTHERN INDIANA BRASS COMPANY · ELKHART INDIANA

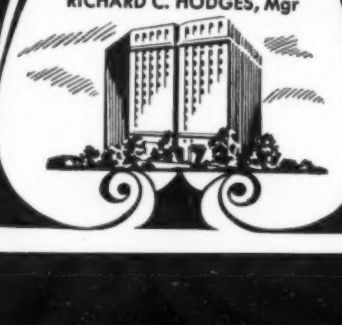
In the Heart OF DETROIT
FACING GRAND CIRCUS PARK

The Tuller, a modern hotel for those who want the best! Convenient to Offices, Theaters, and Shops. Friendly, courteous service and real Hotel Comfort. The Tuller Coffee Shop or Cafeteria for your Dining Pleasure at modest prices. It pays to stay at Hotel Tuller.

VISIT OUR COCKTAIL LOUNGE
ONE OF DETROIT'S FINEST

800 ROOMS WITH BATH FROM $2.75

HOTEL TULLER
RICHARD C. HODGES, Mgr



"Thank you, Mr. Mayer!"

THAWZONE
PATENTED
The PIONEER FLUID DEHYDRANT

MAYER 1842
REFRIGERATING ENGINEERS
SINCE 1842
POST OFFICE BOX 6 RUTHERFORD, N. J.

October 20, 1947

Highside Chemicals Co.,
195 Verona Avenue,
Newark, N. J.

Gentlemen:

We have been using THAWZONE for the past eight years in almost all of our low temperature systems and many of our medium temperature jobs. We have applied it exactly as directed on the container and have always found it to eliminate all moisture troubles on the first application.

Over this period of time we have carefully watched all of these systems and have never found any deteriorating effect from the use of THAWZONE.

We undoubtedly will continue to use THAWZONE and do not hesitate to recommend its use for any refrigerating system, provided it is adaptable to that particular refrigerant.

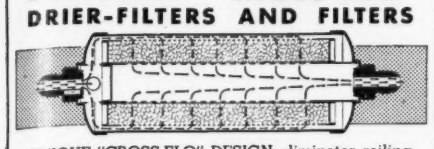
Yours very truly,
MAYER REFRIGERATING ENGINEERS
John J. Mayer

ALSO MAKERS OF
TRACE
REFRIGERANT LEAK DETECTOR

HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.

BOOTH 321 AT THE CLEVELAND SHOW
JAN. 26 TO 29

REMCO HEAVY-DUTY "CROSS-FLO" DRIER-FILTERS AND FILTERS



UNIQUE "CROSS-FLO" DESIGN eliminates roiling, dusting and packing of drying agent, which eliminates pressure drop, clogging, poor refrigerant control performance and expensive call backs—permits installation in liquid line, suction line or between refrigerant control and evaporator.

Ask Your Wholesaler Or Write

No. 1

REMCO, INC., ZELIENOPLE, PA.

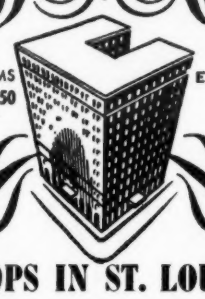
Holiday Greetings

National Cooler Corporation
1600 Woodland Ave., Cleveland, Ohio

Insist on genuine Marlo Products

MARLO = HEAT TRANSFER Since 1925

350 ROOMS FROM $2.50



E. Wahl Simon, Managing Director

TOPS IN ST. LOUIS

Ideally located in the heart of St. Louis two short blocks from the Union Station and in the center of the Wholesale District . . . Preferred, always, by experienced travelers because of its outstanding advantages—Every room with private bath and shower and circulating ice water . . . Superior accommodations at ordinary rates . . . Visit our beautiful Marine Dining Room for the finest of meals, economically priced.

HOTEL CLARIDGE

LOCUST ST. AT EIGHTEENTH

Free Parking

Nema Refrigerator Sales for Oct. And First 10 Months of 1947

Complete Refrigerators Only
(Lacquer and Porcelain Exterior Cabinets) (Advertised Sizes)

OCTOBER

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	Less than 4 cu. ft.	471	....	....	471
2.	4 cu. ft.	355	....	103	458
3.	5 cu. ft.	....	....	....	....
4.	6 cu. ft.	35,701	....	3,090	38,791
5.	7 cu. ft.	149,160	1,987	9,402	160,549
6.	8 cu. ft.	49,294	....	1,736	51,030
7.	9 and 10 cu. ft.	57,058	939	2,162	60,159
8.	11 and 12 cu. ft.	2,620	....	....	2,620
9.	13 cu. ft. and up	....	....	....	....
10.	**Total**	**294,659**	**2,926**	**16,493**	**314,078**

FIRST TEN MONTHS

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	Less than 4 cu. ft.	2,402	....	12	2,414
2.	4 cu. ft.	16,114	1	4,634	20,749
3.	5 cu. ft.	....	....	....	....
4.	6 cu. ft.	265,328	854	16,702	282,884
5.	7 cu. ft.	1,347,336	11,233	94,648	1,453,217
6.	8 cu. ft.	331,791	890	13,474	346,155
7.	9 and 10 cu. ft.	436,756	2,338	21,887	460,981
8.	11 and 12 cu. ft.	2,620	....	....	2,620
9.	13 cu. ft. and up	3,932	....	....	3,932
10.	**Total**	**2,406,279**	**15,316**	**151,357**	**2,572,952**

Participating companies: Admiral Corp.; Crosley Div., AVCO Mfg. Corp.; The Coolerator Co.; Hotpoint, Inc.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Nash-Kelvinator Corp.; Norge Div., Borg-Warner Corp.; Seeger Refrigerator Co.; Westinghouse Electric Corp.

Vendor Outlook--

(Concluded from Page 1, Column 2)

"New machines in the service field are also making great strides," Greene declared.

"Coin-operated washing machines are already doing an annual business of more than 50 million dollars. More than 1,800 self-service laundry stores, the majority of which are coin-operated, have been opened in the last year and a half. In addition, more than 40,000 coin-operated laundry machines have been installed in apartments and factories."

Cross, manager of Telecoin's Tele-Juice division, explained that the Snively "Dispen-so-lator" contains 29 46-oz., hermetically-sealed metal cans of one chosen flavor. He said these cans travel on a chain-driven track to a point immediately located over a stainless tube where one can is opened, permitting the juice to flow into a receiving chamber which is so controlled to hold only 50 oz. at one time or 10 cold drinks.

"A fresh can is not opened until a level of approximately 4 in. is reached in the receiving chamber . . . then opened and mechanically moved into position for emptying . . ." Cross pointed out. "Before this takes place, sufficient time has been given to completely drain the old can.

"Time switches control the moving of empty and filled cans. No dripping of empty cans can take place as the punched top is revolved and tilted up to keep the opened top up as it travels within the machine. Behind the receiving chamber additional cans may be stored to become refrigerated for use when cans in conveyor racks become used up.

"'Dispen-so-lator' serves its products of canned juices to the public in a sanitary paper cup large enough to avoid any spill when removed from the enclosed dispensing chamber—at a cost to the consumer of 5 cents for 5 ozs. Every effort has been made to incorporate in this machine all known sanitary features."

The "Automatic Store" or "Pik-Ups" to be manufactured and distributed by United States Vending Corp. is another machine to shortly appear on the market, Cross said. This unit will vend either fresh fruit or canned juices and will offer 10 different selections.

Like other canned juice vendors, Cross stated, the distributing companies will have a centralized procurement service of the products to be vended.

"'Pik-Ups' is contemplating vending a 5½-oz. can at 10 cents," Cross said.

For

DEALERS SERVED BY THE T.V.A.

Capitalize NOW on your low power rates with Remington's new Model 10 ALL-YEAR Room Air Conditioner.

Why? Because this heavy-duty 1¼ HP air-cooled unit heats as well as cools; can be sold in winter as well as summer.

Valuable territory still open. Ask now, for full information.

REMINGTON Air Conditioning DIVISION
Cortland, New York

Get Your Tickets Early

THE BIG SHOW IS ABOUT TO BEGIN

The Big Show issue of AIR CONDITIONING & REFRIGERATION NEWS is the "ticket" for you in the biggest All-Industry show of the year. Your advertisement in this special issue (January 26) will assure your company and your products the best seats in the house—whether you exhibit or not.

Extra readership and opportune timing assures spotlighted attention for your products—greater sales potential for you. You have to tell 'em to sell 'em and the NEWS offers you the perfect medium to reach your best customers and top prospects with your 1948 sales story.

May we suggest that you send in your advertising space reservation for the January 26th issue today!

CLOSING DATE—JAN. 16

NO INCREASE IN ADVERTISING RATES

RESERVE YOUR SPACE TODAY

Air Conditioning & Refrigeration News
450 W. Fort St., Detroit 26, Mich.

Gentlemen: Please reserve ..... col. inches in Exposition Issue, Jan. 26, 1948 (closing date: Jan. 16) (80 col. inches to a page; 16 inches to a column).

☐ Please send rate card with complete mechanical specifications.

Company .....

Address .....

City..... Zone..... State.....

Per .....

Mail Your Reservation Today

PROTECT YOUR REFRIGERATOR and FREEZER PROFITS

Use the STANDARD TRADE-IN MANUAL for correct identifications and sound valuations

ARRANGED and INDEXED for QUICK REFERENCE

ALL APPRAISALS HAVE BEEN REVISED TO REFLECT CURRENT MARKET FACTORS.

BE PREPARED FOR YOUR 1948 REPLACEMENT SALES

ORDER NOW!

The ONE and ONLY TRADE-WIDE GUIDE

• More than 1150 photographs
• More than 3300 detailed listings
• Authentic trade-in valuations
• Operating information on Merchandising, Reconditioning

The internationally accepted trade-in authority on refrigerators! The standard reference source throughout the United States and 27 foreign countries.

Bookbound in washable green cloth—Pocket Size—4¾" x 6¼", 320 Pages. Price $6

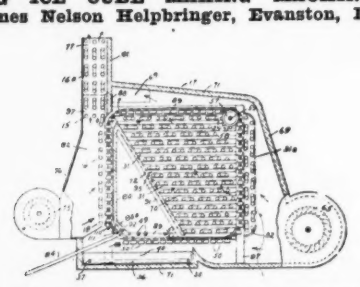
STANDARD REFRIGERATOR TRADE-IN MANUAL CO., 503 W. 43rd St., N. Y. 18
Please send me at once..... copies of 1948 Manual at $6.00* each.
(Outside U.S.A. $7.50.)
*N. Y. C. orders, please add 2% N. Y. C. Sales Tax ACRN
NAME.....
COMPANY.....
STREET ADDRESS.....
CITY..... ZONE..... STATE.....
Check or Money Order..... Bill us per our Order No.....
(We pay postage on prepaid orders. No. C.O.D.'s please.)

PATENTS

Week of October 21

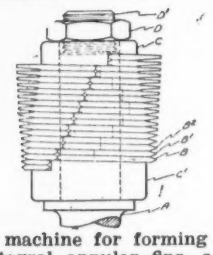
(Continued)

2,429,461. CONTINUOUSLY OPERATING ICE CUBE MAKING MACHINE. James Nelson Helpbringer, Evanston, Ill.



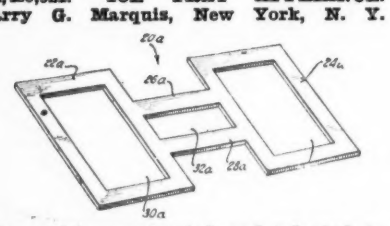
1. A refrigerating apparatus comprising a plurality of containers adapted to retain a substance to be refrigerated, means for propelling the containers in an aligned sequence along a predetermined path of travel, refrigerating means disposed along the path of travel of the containers for effecting a refrigerating action upon the substance while in the containers to effect a solidifying of the substance, heating means disposed along the path of travel of the containers for effecting a heating action upon the substance to free the substance from the container surfaces, means disposed at a predetermined ejector station along the path of travel of the containers for moving the containers to inverted position, and means for imparting an impact to the containers while in inverted position to eject the solidified substance therefrom and the said impact means being adapted to return the containers to normal position.

2,429,491. APPARATUS FOR FORMING ANNULAR PINS ON TUBING. Otto R. Schuler, Detroit, Mich., assignor to Calumet & Hecla Consolidated Copper Co., Calumet, Mich.



1. In a machine for forming on tubing spaced integral annular fins, a roll comprising a plurality of radially split centrally apertured discs each of uniform radial cross section with successive discs of different cross sections, an arbor on which said discs are sleeved and clamping abutments for said discs on said arbor adapted to deflect the same into a helical form.

2,429,521. ICE TRAY APPLIANCE. Harry G. Marquis, New York, N. Y.



An article constructed and adapted to lie flat on the surface of an evaporator shelf of a refrigerator and to support an ice tray and to slightly space a bottom surface of said tray from the opposed surface of the evaporator shelf and to prevent the tray from being frozen to said shelf, said article consisting of a pair of frames spaced apart and joined by strips, said frames and strips being composed of thin flat organic polymeric insulating material said frames and strips defining and enclosing spaces, the flat area of said frames and strips being a minor fraction of the area defined by the peripheral edges of said article.

AVAILABLE FOR LICENSING OR SALE

Pat. 2,147,678. COOLING APPARATUS. Patented Feb. 21, 1939. Group 35—84. Reg. No. 8,347.

Pat. 2,148,412. REFRIGERATING APPARATUS. Patented Feb. 21, 1939. Group 35—84. Reg. No. 8,348.

Pat. 2,148,413. REFRIGERATING APPARATUS. Patented Feb. 21, 1939. Group 35—84. Reg. No. 8,349.

Pat. 2,148,414. COOLING APPARATUS. Patented Feb. 21, 1939. Group 35—84. Reg. No. 8,350.

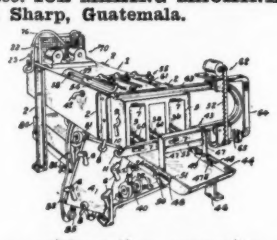
These four patents relate to refrigerating apparatus. (Owner) Westinghouse Electric Corp. Address correspondence to Patent Department, Westinghouse Electric Corp., East Pittsburgh, Pa.

Week of October 28

2,429,619. AIR CONDITIONING SYSTEM. Clyde M. Hamblin, Washington, D. C.

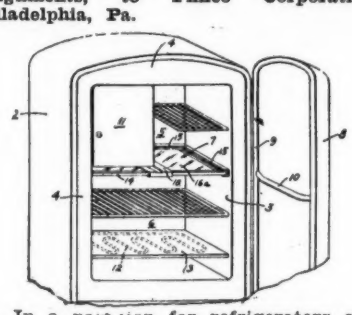
1. In an air heating and cooling system, a circulating fan and means for operating same, an air duct connected with the fan on the intake side thereof, means in the intake duct for heating the air passing to the fan, a by-pass duct connected with the air intake duct, whereby the said by-pass duct may remove air from the latter duct prior to admission of air to the heating means and the circulating fan, and deliver the removed air to the discharge duct without being heated, or propelled by the fan, means in the discharge duct adjacent to the by-pass inlet thereto, adapted to adjustably control the flow of induced air from the by-pass duct, whereby the proportion between the propelled and induced air in the discharge duct may be varied, for the triple purpose of controlling the temperature of the air delivered by the system, varying the total heat output of said system, and controlling the velocity of flow of the finally delivered air stream.

2,429,699. ICE MAKING MACHINE. Renwick J. Sharp, Guatemala.



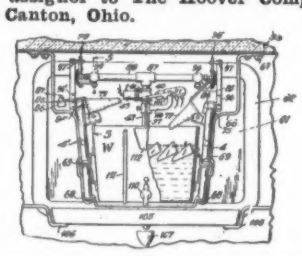
1. In a refrigerating apparatus of the kind described, a casing containing an elongated ice compartment with a door opening at an end thereof, a door for said opening, track means in the lower part of said compartment and positioned to guide ice blocks therefrom through said door opening, an ice saw unit including a saw proper and an operating motor therefor, and a track for said unit positioned to guide it back and forth in front of said door opening while being operated to saw off the protuding portion of an ice block.

2,429,709. SHELF FOR REFRIGERATOR CABINETS. George E. Curtiss, Jr., Penn Wynne, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa.



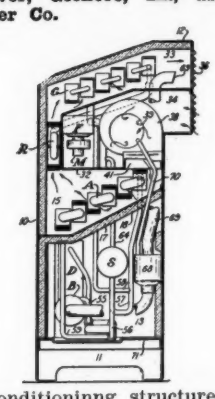
1. In a partition for refrigerators and the like, a pair of imperforate sheets arranged in side-by-side substantially co-planar relation and being horizontally slidable to define an imperforate shelf surface of adjustable width, the inner adjacent edges of said sheets being spaced—when the shelf is so adjusted as to have its maximum width—to accommodate inward movement of said sheets and consequent reduction of the width of the imperforate shelf, and means preventing the passage of air through the space between said inner edges in any position of shelf adjustment.

2,429,851. DRIP FED ICE CUBE MAKING AND STORING ARRANGEMENT. Edward R. Swann, Floral Park, N. Y., assignor to The Hoover Company, North Canton, Ohio.



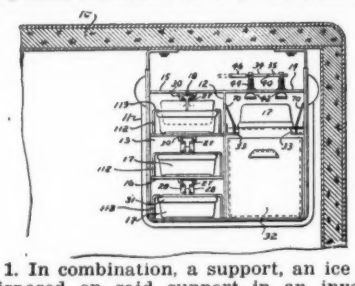
1. Refrigerating apparatus including a pair of cooling units operable alternately to refrigerate and defrost, an ice mould associated with each cooling unit and pivotally mounted adjacent thereto, said ice moulds being so balanced with respect to their pivots that they will rest against said cooling units when empty and be overbalanced to a dumping position when charged with ice.

2,429,881. CABINET ARRANGEMENT FOR ABSORPTION TYPE HOUSEHOLD AIR-CONDITIONING UNITS. Howard Earl Hoover, Glencoe, Ill., assignor to The Hoover Co.



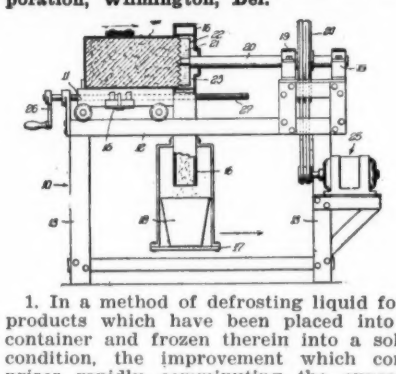
1. Air conditioninng structure comprising a casing, means in said casing forming a cooling air duct, means in said casing forming a conditioned air duct, means for circulating cooling air and air to be conditioned through said cooling air and conditioned air ducts, respectively, an air conditioning and dehumidifying apparatus of the heat operated absorption type associated with said casing comprising a cooling and dehumidifying element positioned in said conditioned air duct, elements for dissipating the heat of absorption and the heat of condensation in said cooling air duct, a heat operated element in said casing, a combustible fuel burner arranged to apply heat to said heated element, means for bringing condensate produced by the dehumidification of the conditioned air into heat exchange relation with waste products of combustion from said burner.

2,429,882. ARRANGEMENT FOR RELEASING AND STORING ICE CUBES. Harley Y. Jennings, Danville, Va., William F. Swezey, Upper Darby, Pa., and Fred W. Schouman, Flint, Mich., assignors to Copeman Laboratories Co., Flint, Mich.



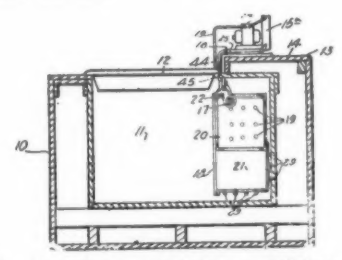
1. In combination, a support, an ice tray disposed on said support in an inverted position, said tray containing a plurality of separated ice blocks therein and adhering thereto, a storage receptacle disposed below said support, and means for exerting a twisting force on said tray to rotate the ends in opposite directions and thereby release the ice blocks therefrom into said storage receptacle.

2,429,909. DEFROSTING METHOD. George Dudley Allman, Chicago, Ill., assignor to United States Cold Storage Corporation, Wilmington, Del.



1. In a method of defrosting liquid food products which have been placed into a container and frozen therein into a solid condition, the improvement which comprises rapidly comminuting the exposed frozen contents to change the same into the form of a crystalline mass of snow of increased bulk and increased exposed surface area throughout said entire mass, thereby quickly to expel said snow from the mouth of the container to prepare the same for rapid thawing, and thawing said snow to transform it to a liquid condition.

2,429,934. REMOVABLE REFRIGERATING UNIT. Melvin S. Groh, Preston, Ontario, Canada.



1. A cooler comprising a refrigerating chamber, a refrigerating unit suspended within the chamber, said unit including an evaporator and a fast freezing compartment adjacent to one another, bracket means hingedly connected to said unit mounted exteriorly of the chamber and suspending said unit within the chamber, means cooperating between the bracket and said unit for maintaining said unit rigidly in respect to the bracket when in suspended position, a compressor and condenser mounted on said bracket outside the container, refrigerating pipes in intimate contact with the walls of the fast freezing compartment, a feeding conduit connected between said condenser and said pipes, said pipes being led to said evaporator and forming a coil unit therein to refrigerate said compartment and a return conduit connected between said coil unit and said compressor, said feeding and return conduits being led to said unit substantially along the axial line of hinging of said bracket to said unit.

Subscribe Now

Receive the greatest trade paper in the Industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on household refrigeration, commercial refrigeration, air conditioning, home freezers; manufacturing, distributing, retailing, servicing, and contracting. Only $5 per year, 52 issues.

Fill in coupon and mail today

AIR CONDITIONING & REFRIGERATION NEWS
450 West Fort Street, Detroit 26, Mich.

Gentlemen: Send the NEWS for one year.

☐ $5 enclosed ☐ Bill me ☐ Bill the company

Name.....

Company.....

Street.....

City.....Zone.....State.....

12/29/47

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $2.50 per insertion. Limit 50 words.

RATES for all other classifications $5.00 per insertion. Limit 50 words.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

POSITIONS WANTED

MANAGER SERVICE, installation, maintenance engineer. All types, sizes, domestic, commercial, industrial, refrigeration, air conditioning, heating, ventilating. "Freon," carrene, ammonia, CO_2, etc. Any industrial application: Dairy, cold storage, ice, food processing, etc. 20 years local and foreign experience. Technical education. Go most anywhere—United States or foreign. BOX 2606 Air Conditioning & Refrigeration News.

COMPETENT SALES engineer available January 1st. Fifteen years experience in sales and management of air conditioning and commercial refrigeration operations. Best references from major manufacturers. Consider Southwest only. Reply BOX 2618 Air Conditioning & Refrigeration News.

SERVICE ENGINEER—35 years old. Presently employed by York dealer. 11 years experience air conditioning and refrigeration. Would like employment with chance for advancement. Will travel. BOX 2619 Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE re-establishing office preferably Omaha covering Central States is seeking a limited number of high grade accounts. Refrigeration, heating, air conditioning equipment. Registered Mechanical Engineer, management experience and 12 successful years selling. Established reputation among manufacturers, architects, contractors, wholesale and dealer trade. BOX 2620 Air Conditioning & Refrigeration News.

DEAR SANTA: I am 57 years old, have been a good boy about half the time, I am a member of the N-A-R-C & Greenville chapter R-S-E-S, a practical & technical sales engineer for forty years in the refrigeration business. I'm tired of working: So please bring me a nice refrigeration manufacturers agency, with lots of territory and several sponsor's with a national reputation, so I can capitalize on it, an overstuffed morris chair, office desk, telephone, typewriter, reams of letterheads and a liberal commission. I promise not to call on anyone but "Distributors and Wholesalers" when answering inquiries. BOX 2621 Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

COMMERCIAL AND industrial refrigeration and air conditioning installation and servicemen with at least 3 years experience. 40 hour week, company trucks furnished, $1.80 to $2.00 scale. DRESCO REFRIGERATION COMPANY, 4404 Woodward, Detroit 1, Michigan.

REFRIGERATION SALES engineer—experience necessary. Excellent position with an old established wholesale distributor handling well advertised, nationally known brands on an exclusive resale basis. We have an excellent opening for a good commercial refrigeration sales engineer. McCUNE & COMPANY, INC., 3721 Mahoning Avenue, Youngstown 9, Ohio.

EXPERIENCED COMMERCIAL refrigeration and air-conditioning salesman. Salary, commission and bonus—Frigidaire and Tyler products. MILLER ENGINEERING CO., 118-120 No. Winnebago St., Rockford, Illinois.

RETAIL SALESMAN to join one of California's leading commercial refrigeration firms. You would sell Tyler equipment, America's most complete line of commercial refrigeration. Thorough experience and successful selling record required. Excellent income. Please write stating full qualifications. Address F. WILLIAMS, 1940 South Main Street, Los Angeles 7, California.

OPPORTUNITY: POSITION, National Service Manager. Young man with mechanical background, preferably with refrigerator service experience, desired by old reliable manufacturer who merchandises nationally. Opportunities excellent. Forward details to P. O. BOX 112, Traverse City, Michigan.

DESIGNER FOR commercial refrigerators to design display cases, reach-ins, beverage coolers and freezers. Must have at least 5 years experience. Good opportunity with very progressive refrigerator manufacturer in Philadelphia area. State qualifications, previous employment and salary desired. BOX 2591 Air Conditioning & Refrigeration News.

SALES MANAGER wanted: Leading locker manufacturer seeking experienced, aggressive man to head national sales organization. Position offers big opportunity for the right person who knows the locker industry, and interested in earning a substantial salary plus bonus. Write fully, stating age, experience and necessary qualifications. BOX 2599 Air Conditioning & Refrigeration News.

WANTED: SALESMAN to represent well-known locker manufacturer in conjunction with his present line—one who is now calling on dealers and contractors in the locker industry. Unusual opportunity for big commission earnings. State product and territory now being covered. BOX 2600 Air Conditioning & Refrigeration News.

MANUFACTURER OF commercial refrigerator hardware desires traveling salesmen to sell refrigerator hardware to builder and store fixture trade, commission basis. BOX 2614 Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

SILICA JEL—Limited quantity available @ 20¢ per lb. in 25 and 100 lb. lots. Packed in sealed tins and guaranteed moisture free. Also ⅜" I. P. by ½" flare aluminum couplings $5.00 per hundred. Send check or money order to BROWN'S SURPLUS SALES, De Kalb, Illinois.

BUSH CONDENSERS—new in cartons. 1400—No. 10-2-6-13—$2.90 each; 439—No. 10-2-6-11—$2.82 each; 1200—No. 14-1-6-8—$2.38 each; any quantity, F.O.B. Los Angeles. A. H. COONS, 736 E. Washington Blvd., Los Angeles 21, California. RI. 7-3581.

FOR SALE at reduced prices, 2-tap all stainless steel direct draw boxes complete with blowercoil $275 F.O.B. Chicago, Illinois. 3-tap all stainless steel direct draw boxes complete, $340. GEORGE HILGER CO., INC., 8444 So. Racine, Chicago, Illinois.

BARGAINS: 8 Ft. beverage coolers, with blower stainless lids, less units, $175.00; 6-can square Victor Milk Coolers, less coils and units, $75.00; Bev-Food & Beverage Cooler combination complete, $225.00; Aetna Ice Cream Lids & Collars, $8.35 each. MILK PRODUCERS EQUIPMENT CO., 1443 Chouteau Avenue, St. Louis, Mo.

SACRIFICING: 33FL Universal units, less motors, $71.00 each; 150FS Universal units, less motors, $149.00 each; A-15FL Universal units, with motors, $55.00 each; DD33FLI Universal units, less motors, $56.00 each; 6 cubic foot freezers complete, $150.00 each. MILK PRODUCERS EQUIPMENT CO., 1443 Chouteau Avenue, St. Louis, Mo.

JACK & HEINTZ fractional horsepower motors. Complete line of various sizes: ⅙, ¼, ⅓, ½-110/220 AC 60 cycles; 115/230 AC 50 cycles. Available for immediate delivery. Maximum discounts. Export Dept., S. J. O'BRIEN SALES CORP., 560 West 34th Street, New York 1, N. Y. Telephone WI. 7-2100.

SACRIFICING BRAND-new Copeland and other top brands. Condensing units in original crates. ⅛, ¼, ⅓, ½ HP. air-cooled. 1½ and 3 HP. water-cooled. All priced for immediate clearance. Write or wire now. ROCHELLE REFRIGERATION COMPANY, 31 East 4th Street, New York 3, N. Y.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three $5.25 (Part No. 1020) Installation tool 20¢. Immediate delivery Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

REAL BUY! New, Universal ¼ HP units, compact, complete with motors, original cartons; wholesale only, $62.50. Rebuilt, like new: Mills ⅓ HP units complete with new motors, $75.00. ½ HP, $85.00. Add $2.50 crating. Don't forget our compressor rebuilding. Immediate exchange on hundreds of models. SQUARE DEAL SUPPLY CO., 904 N. Illinois St., Indianapolis, Indiana.

BUSINESS OPPORTUNITIES

COMMERCIAL REFRIGERATION sales and service business. Located on chain of lakes in Northern Illinois. Business well established. Will sell service dept. separately if you wish. Plenty repair work for two men. Reason: Health will not permit owner to do service work. BOX 2617 Air Conditioning & Refrigeration News.

ICE PLANTS

5 Ton to 80 Ton capacity for delivery in early Spring in time to assure operation over the profitable summer season. These are standard, well-engineered Plants with a famous make Ammonia Compressor. Prices are competitive. Also available—replacement equipment and supplies. Prompt delivery on Tank Frames and Covers, Tanks, Pressure Vessels, Can Fillers, Can Dumpers, Etc. Advise your requirements.

RECO PRODUCTS DIVISION
2024 Market St., Philadelphia 3, Pa.

EXPERIENCED MANUFACTURER'S AGENTS

Men accustomed to annual earnings over $10,000, needed to establish distributorships and dealerships for America's finest line of self-contained under-bar beverage coolers. You'd be backed by extensive advertising plus promotional efforts of well-known, respected manufacturer. Please state complete qualifications.

Box 2603,
Air Conditioning & Refrigeration News

PAR REFRIGERATION EQUIPMENT

Tops in PERFORMANCE ECONOMY and EFFICIENCY

Lynch ... By Comparison—You'll Buy PAR
Manufacturing Corporation
General Offices, Toledo 1 • Factory, Defiance, Ohio, U.S.A.

The KEY to AIR CONDITIONING

One of a series from

by James J. LaSalvia

Refrigeration Cycle (Cont.)

SELECTION OF EXPANSION VALVES

On all refrigerant cycles there is pressure loss which must be considered in selecting the expansion valves. This pressure loss is made up from the following items:

1. Pressure loss through condenser.
2. Pressure loss through liquid line.
3. Pressure loss through valves (such as solenoids).
4. Pressure loss through expansion valves.
5. Pressure loss through evaporators.
6. Pressure loss through suction line.
7. Pressure loss due to loss of head when evaporators are located above the condenser.
8. Pressure loss through hot gas line (with evaporative condenser).
9. Pressure loss caused by liquid refrigerant vaporizing in liquid line before reaching the expansion valve.

The pressure losses through condensers, valves, expansion valves, and evaporators can be obtained from the manufacturer, whose equipment a person intends to use. Use 1 lb. loss through expansion valves.

All other pressure losses are due to design and can be increased or decreased according to design of system.

For pressure loss from loss of head, estimate 10 lbs. loss for each 18 ft. head for "Freon" refrigerant.

For pressure loss on account of liquid refrigerant vaporizing in liquid lines the loss is negligible on short liquid lines. On long liquid lines use sub-coolers to eliminate any vaporizing.

In selecting an expansion valve it is necessary to know the following pressures:

1. Head pressure at compressor.
2. Suction pressure at compressor.
3. Pressure loss.

As the expansion valve operates on the differential pressure, the differential pressure would be: (head pressure) − (suction pressure + pressure loss).

EXAMPLE

A system is to use one evaporator with one circuit. The total heat gain is 100,000 B.t.u. per hour. The head pressure at compressor is 130 p.s.i., and the suction pressure at compressor is 35 p.s.i. The pressure loss is 15 p.s.i. Then:

130 lbs. − (35 lbs. + 15 lbs.) = 80 lbs., which is the pressure difference.

The expansion valve selection would be as follows: one expansion valve having a capacity of 100,000 B.t.u. per hour, operating at 80 lbs. pressure difference, with a 1 lb. pressure loss through the valve.

On simple systems when the pressure loss is not known and where the evaporator is close by the compressor a simpler method may be used for selecting the expansion valves.

The pressure loss in such cases will vary from 10% to 25% of the actual output of the valve. So that in order to have the proper output, the expansion valve should be selected 10% to 25% above its actual requirements. In this method use only the compressor head and suction pressures to find pressure difference.

Using the above example without the pressure loss, the selection of the expansion valve would be as follows:

Capacity:
100,000 B.t.u. x 125% =
125,000 B.t.u. per hour.

Pressure difference:
130 lbs. − 35 lbs. = 95 lbs.,
which is the pressure difference.

Therefore, select an expansion valve having a capacity of 125,000 B.t.u. per hour, operating at 95 lbs. pressure difference, with a 1 lb. pressure loss through the valve.

(To Be Continued)

● Where processing or protective storage of products depends on refrigeration, install a Niagara Aero-pass Condenser. It assures year-round operation at minimum head pressure. It keeps the system clean of oil and dirt. It does away with scaling and clogging trouble on condenser tubes. It cuts condenser water consumption. It cuts refrigeration power costs. It assures quality and increases production by giving extra refrigeration capacity.

Patented Features Include:

"Duo-Pass" to prevent scaling of condenser tubes.

"Oilout" to keep out oil and dirt.

"Balanced Wet Bulb Control" to keep head pressure down.

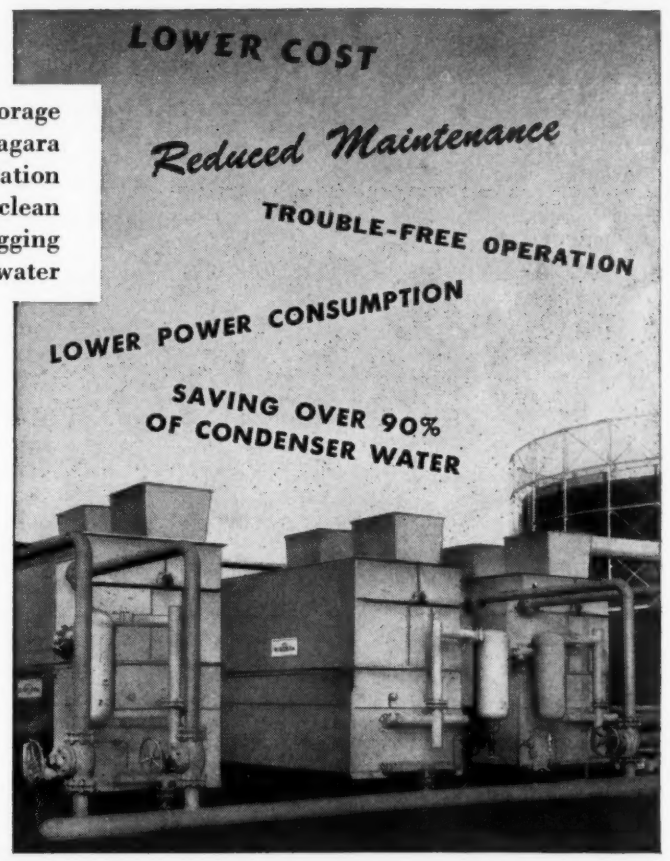
Write for Bulletin 103- AC

NIAGARA BLOWER COMPANY

Over 30 Years of Service in Industrial Air Engineering

405 Lexington Ave. New York 17, N. Y.

District Engineers in Principal Cities



INDUSTRIAL COOLING HEATING • DRYING **NIAGARA** HUMIDIFYING • AIR ENGINEERING EQUPT.

for SULFUR DIOXIDE and METHYL CHLORIDE

See Your ANSUL WHOLESALER

These Ansul Refrigerants have a long record for DRYNESS, PURITY and DEPENDABILITY. You will like Ansul's friendly service.

*REG. U.S. PAT. OFF.

ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION
MARINETTE, WISCONSIN

Distributors for Kinetic's "Freon-11," "Freon-12," "Freon-21," "Freon-22" and "Freon-113"

THE MASTER SERVICE MANUALS - - -

— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.

BUSINESS NEWS PUBLISHING CO., DETROIT

"Easily understandable---
and a great aid to service engineers"

REFRIGERATION PROBLEMS AND THEIR SOLUTION

by Paul Reed

In two volumes, J-1 and J-2

Manager, Refrigeration and Air Conditioning Div. Perfex Corp.

Handy, practical, reference information for the refrigeration service engineer, "Refrigeration Problems and Their Solution" is written and illustrated so as to be of interest to salesmen, users, and others who want a fuller knowledge of refrigeration.

You'll like the way Paul Reed has organized his material . . . and he writes clearly, making these books easy to understand and a pleasure to read. And because Paul Reed has such a wealth of practical knowledge of refrigeration, and years of experience behind him, you'll find reading these books the next best thing to a person-to-person chat about your refrigeration problems.

Conveniently cross-indexed for instant use, "Refrigeration Problems and Their Solution" can provide "the missing link" in your search for authentic advice on "how to make it work."

264 pages. *6 by 8½* *$1.00 ea.*

Vol. 1

Chapter No.	Subject	Page No.
1	Measurement of Temperature	1
2	What Heat Is; How it May Be Measured	6
3	Temperature-Pressure Relationship	11
4	Temperatures, Pressures, and Heat Contents In the Compression Cycle	15
5	Automatic Expansion Valves	23
6	Thermostatic Expansion Valve and Superheat	28
7	The Capillary Tube	34
8	The High-Side Float Valve	39
9	The Low-Side Float Valve	42
10	Rise and Fall of the Low-Side Float	46
11	Flash Gas	48
12	Heat Exchangers	53
13	Oil-Refrigerant Mixtures	57
14	Factors In Pressure Control Settings	62
15	Effect of Altitude on Controls, Valves	65
16	Air Circulation for Air-Cooled Units	68
17	Relationship Between Refrigerant Pressures and Air Temperatures	72
18	Determining the Heat Leakage	76
19	Determining the Product Load	80
20	Miscellaneous and Service Loads	84
21	A Problem In Beverage Cooling	89
22	Multiple Systems	91
23	Balancing the Units In a System	99
24	Fur Storage—Use of Variable Speed Units	102
25	Varying the Capacity of a Condensing Unit	105
26	Loading of Condensing Unit Motors	120
	Index	123

Vol. 2

Chapter No.	Subject	Page No.
27	Water-cooled Condensers	123
28	The Evaporative Condenser	129
29	Compressor Shaft Seals	138
30	Piston Head Clearance	158
31	Defrosting of Evaporators	161
32	Proper Handling of Compressor Oil	166
33	Changing from "Freon-12" to Methyl Chloride	169
34	Charging Refrigerant Into the System	173
35	Conditions Affecting Food Preservation	176
36	Humidity and Air Circulation	179
37	Storage Temperature Not for Freezing	189
38	Refrigeration and Handling of Beer	192
39	Carbon Dioxide In Refrigeration Work	195
40	Use of Gauges vs. Guessing	199
41	Use and Care of Tools	201
42	Recording Suction Pressure Gauge	205
43	Simple, Obvious Causes of Troubles	213
44	How Preventive Maintenance Is Used	215
45	Control of Moisture In Refrigeration Units	218
46	Finding & Preventing Refrigerant Leaks	221
47	Care and Treatment of V-Belts	227
48	Lapping Seals, Plates, etc.	230
49	Service Chart	233
50	Service Chart	238
51	Service Chart	245
52	Service Chart	252
	Index	258

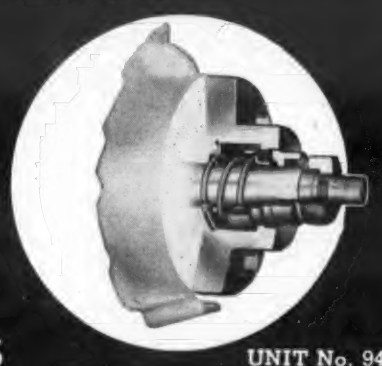
BUSINESS NEWS PUBLISHING CO., 450 W. FORT ST., DETROIT 26, MICH.

Rotary Seal

REPLACEMENT UNITS

are available not only for the smaller size compressors normally used for household refrigerators, but also for...

MANY OF THE LARGER SIZES AS USED IN COMMERCIAL, SEMI-COMMERCIAL AND AIR CONDITIONING INSTALLATIONS



UNIT No. 9444

YOU GET *All* THE IMPORTANT BENEFITS WITH **ROTARY SEAL**

THE ROTARY SEAL COMPANY — mechanical seals for rotating shafts

Simplicity in construction...
Simplicity in installation...
Simplicity in operation...

See your jobber!

2020 NORTH LARRABEE ST. • CHICAGO, 14, ILLINOIS, U.S.A.

CANADIAN AGENT: 2025 ADDINGTON AVENUE • MONTREAL, 28, QUEBEC, CANADA

Store Modernization Show Set for New York

NEW YORK CITY—The Second International Store Modernization Show, described by its sponsors as a preview of the retail store of the future, will be staged at Grand Central Palace here, July 6 to 10, 1948, John W. H. Evans, managing director, has announced.

Exhibits of new building materials, displays and fixtures, lighting, and store fronts, daily clinics on store modernization problems, and the winning drawings and models in the "Shopping Center of the Future" competition among architectural schools will be features of the show.

Lifting of 25% Canadian Excise Asked

MONTREAL—Lifting of the 25% excise tax recently imposed by the Canadian government on certain goods imported from the United States, including some appliances, has been asked by a nation wide group of retailers.

That group, The Canadian Retail Federation, claiming to represent some 1,100 retail dealers, sent a memorandum to the Hon. D. C. Abbott, Dominion minister of finance, pointing out the hardship the excise tax worked on Canadian home builders.

The meorandum said, in part:

"There are thousands of homes in the course of erection today all over the country—many of which are nearing completion. Veterans and others have exhausted their resources to put down the first payment on such homes. They have now entered the market for those items which are essential.

"Among the first is some kind of cooking unit. A coal or wood stove is not suitable because there is no chimney in the kitchen—which has either been wired for an electric range or piped for a gas range.

"To place a 25% excise tax on such units, we submit, is a discriminatory penalty against the potential purchases of such essential equipment."

L. A. Range Installations Reached 5,400 In '47

LOS ANGELES — With December installations estimated, 5,400 new electric ranges and 2,800 new water heaters were added to the lines of the City's department of water and power during 1947, R. H. Cockfield, manager of residential sales, business agent's division, reported recently.

"These sales totals are a measure of the availability of equipment rather than an indication of the sales potential of the respective appliance," Cockfield declared.

"Ranges are still in short supply, particularly the deluxe models. Adequate quantities of water heaters only became available at midyear," he added.

"Refrigerators are still in very short supply, but home freezers are available in sufficient quantities."

WANTED

City Salesmanager for Commercial Refrigeration. Experience in Refrigeration or Specialty sales preferred. Permanent position and excellent opportunity for high class man. Write, giving full details of qualifications and salary expected. Reply to

Box #2622, Air Conditioning & Refrigeration News

CLARK BRIDGMAN CO.
549 W. WASHINGTON BLVD.
CHICAGO 6, ILL.

Sales and Engineering

Product Coolers, Evap. Condensers
Air Conditioning, Liquid Coolers
Water Chillers, Heat Exchangers
Liquid Receivers

A. A. Reed, 14 Poplar Park, Pleasant Ridge, Mich.
R. R. Gregory, P. O. Box 184, Easton, Ill.
R. E. Kenney, 4243 Crocker Ave., Minneapolis, Minn.

1'ST IN LINE AT THIRST TIME!

OASIS—made by the world's largest maker of electric drinking water coolers—is *first in line* when it comes to delivering complete thirst relief at low cost. Write for details.

The EBCO Manufacturing Co.
401 W. Town St., Cols. 8, Ohio

HOTEL STRAND

Atlantic City's Hotel Of Distinction

A Hotel Planned and Designed for Your Every Comfort . . . assuring you absolute Rest and Relaxation . . . amid an Atmosphere of Refinement. . . .

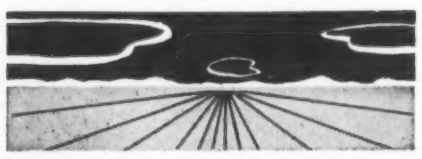
Beautifully Furnished Rooms . . . Ocean Front Verandas . . . Roof-Top Solarium . . . Salt Water Baths . . . Cuisine Unsurpassed. Garage on Premises. . . .

OPEN ALL YEAR

Under Ownership Management

Exclusive Penna. Ave. and Boardwalk

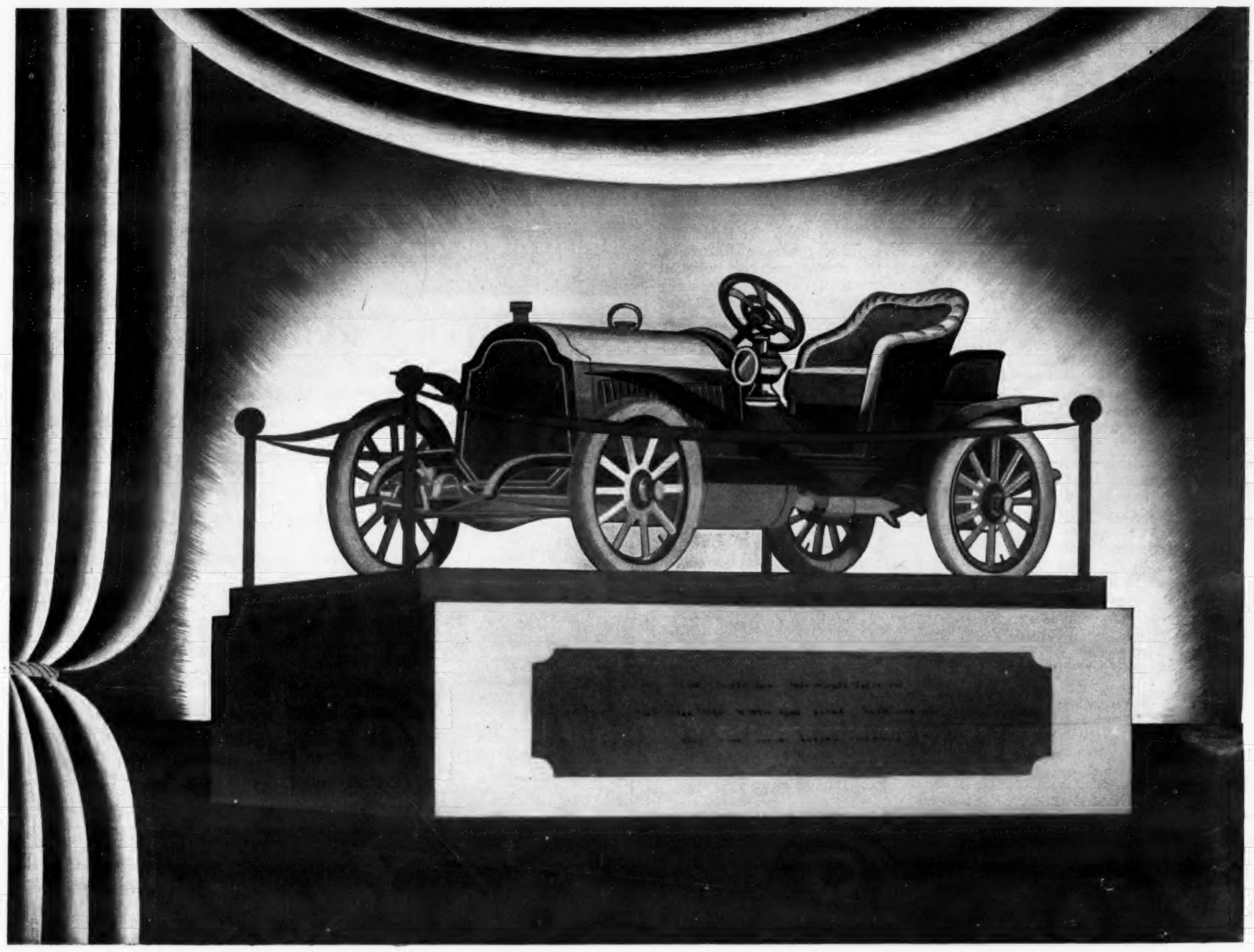
GOVERNAIR



PIONEERS in the manufacture of completely packaged AIR-CONDITIONERS*

Manufacturers of: Evaporative Condensers Air Handling Units for Heating and Cooling Unit Coolers for Refrigeration • Blast Coils for Heating and Cooling.

For further information contact your Governair distributor or wholesaler, or write direct.
GOVERNAIR CORPORATION
513 N. BLACKWELDER
OKLAHOMA CITY, OKLA.
P. O. BOX 1654
* with evaporative condensers, U. S. Patent No. 2,297,928.



THIS MUSEUM PIECE IS THE GRANDDADDY OF BUSH FINNED COILS

BUSH

OUR FORTIETH YEAR

Back in 1907, a refrigeration system consisted of a compressor and many feet of two-inch iron pipe. It was inefficient, costly, bulky.

But the 1907 *automobiles* had efficient cooling systems . . . finned-coil radiators with power-driven fans. And Bush, who was building these radiators, saw how the same principles could be applied to commercial refrigeration systems.

So Bush began building finned-coil evaporators and condensers. They adopted the automobile's power-driven fan to increase efficiency and reduce size.

Today . . . 40 years later . . . every modern refrigeration system employs the finned coil. And today Bush builds a substantial part of all low-side commercial refrigeration equipment.

Bush products are sold by leading refrigeration wholesalers everywhere.

HEAT TRANSFER PRODUCTS • BUSH MANUFACTURING COMPANY • HARTFORD, CONN.

415 LEXINGTON AVE., NEW YORK • 549 W. WASHINGTON BOULEVARD, CHICAGO • EXPORT ADDRESS: 13 EAST 40th ST., NEW YORK • CABLE "ARLAB"

Visit the Bush Exhibit at the Show — Booth Number 610